

On How to Live and Keep Dying

Patrícia Amaral

University of North Carolina at Chapel Hill

1. Introduction

This paper focuses on a verbal construction of Brazilian Portuguese (BP) formed with the verb *viver* ‘to live’ + $V_{[Gerund]}$, ‘to keep V-ing’, as in (1), and provides an analysis of its meaning.

- (1) Ele vive chegando atrasado.
he live-PRES-3SG arrive-GER late
‘He arrives late all the time.’¹

Following the Hispanic Linguistics tradition, I will refer to this type of verbal construction as *verbal periphrasis* or *aspectual periphrasis* (Yllera 1999).

Spanish and Portuguese have a progressive periphrasis formed by *estar* + $V_{[Gerund]}$ and distinguish two aspectual periphrases formed with verbs of motion: *andar* ‘to walk’ + $V_{[Gerund]}$, ‘to V repeatedly’, and *ir* ‘to go’ + $V_{[Gerund]}$, ‘to V slowly and gradually’ (Squartini 1998; Travaglia 1981; Mória & Viotti 2004). Contra previous proposals in the literature, Laca has argued that these periphrases formed with verbs of motion do not convey progressive aspect. She proposes that they modify the basic eventuality denoted by the verb and should be analyzed as pluractional operators on the VP (Laca 2004b, 2006). In this paper, I describe the syntactic and semantic properties of *viver* + $V_{[Gerund]}$ in BP and show that it is a monoclausal construction. I build on Laca’s proposal regarding the periphrases formed with verbs of motion to analyze the meaning of *viver* + $V_{[Gerund]}$ in terms of eventuality modification and pluractionality.

This paper is organized as follows. In section 2, I present the syntactic and semantic tests that distinguish the aspectual periphrasis from the biclausal construction in which *viver* and the verb in the Gerund constitute two separate predicates. In section 3, I present the aspectual properties of the periphrasis *viver* + $V_{[Gerund]}$ and analyze it as a frequentative operator. Section 4 offers concluding remarks.

2. *Viver* + $V_{[Gerund]}$ as a complex predicate

The periphrasis formed by *viver* + $V_{[Gerund]}$ behaves differently in syntactic and semantic terms from the construction in which *viver* is a main verb and is modified by a non-finite (gerund) verb form, as in (2). This construction is biclausal and each verb is a separate predicate. On the other hand, the aspectual periphrasis, exemplified in (3), is a monoclausal construction, i.e. a complex predicate.

- (2) Ele viveu fazendo o bem.
he live-SPAST-3SG do-GER the good
‘He lived doing good deeds.’ (BICLAUSAL CONSTRUCTION – Main verb + gerund modifier)

*I wish to thank the audience of the Hispanic Linguistics Symposium 2011 and two anonymous reviewers for their insightful comments on this paper.

¹The examples in this paper are either naturally-occurring (found online) or taken from other papers. Abbreviations are: PRES: Present Tense, SPAST: Simple Past (*Preterito Perfeito Simples*), PLUPERF: Pluperfect (*Mais-que-perfeito do Indicativo*), GER: Gerund, INF: Infinitive, 1SG: 1st person singular, 3SG: 3rd person singular, 3PL: 3rd person plural, REFL: reflexive pronoun.

- (3) Minha ventoinha vivia fazendo barulho.
 my fan live-IMPF-3SG do-GER noise
 ‘My fan made noise all the time.’ (MONOCLAUSAL CONSTRUCTION – Aspectual periphrasis)

Constructions described as complex predicates do not display a uniform behavior cross-linguistically (see Alsina, Bresnan & Sells 1997 for discussion). Here I will focus on the criteria for complex predicates that have been proposed for the Romance languages, following (Abeillé & Godard 2010). A complex predicate is a series of verbs that functions like a single verb with respect to a set of syntactic and semantic properties. It is formed by a finite verb followed by a non-finite verb (e.g. a participle, an infinitive or a gerund). The finite verb (head) is considered an auxiliary verb. In the periphrasis *viver* + $V_{[Gerund]}$, the verb *viver* is an auxiliary verb with an aspectual interpretation and the main predicate is the verb in the gerund. In the next sections, I show that this periphrasis meets the syntactic and semantic criteria that define complex predicates.

2.1. Syntactic tests

Complex predicates show a certain pattern of behavior. It has been proposed that for the European varieties of the Romance Languages, a complex predicate can be identified by the following syntactic tests: constituency tests such as preposing, acceptability of intervening adverbs and other constituents between the two verb forms, and clitic climbing (Abeillé & Godard 2010). I will consider now each of these tests.

2.1.1. Constituency tests: Preposing

Preposing a string (e.g. the initial constituent in a topicalization structure) is generally used as a test for constituency. Sequences that follow the heads of complex predicates (i.e. non-finite verb form and complement(s) it subcategorizes for) cannot be preposed, as they form a single constituent with the finite verb. Accordingly, the aspectual periphrasis does not allow extraction of the gerund, while the biclausal construction does:

- (4) Fazendo o bem, foi como ele viveu. (Biclausal construction)
 ‘Doing good deeds, that’s how he lived.’
- (5) ?Chegando atrasado, é como ele vive. (Periphrasis)
 arrive-GER late be-PRES-3SG how he live-PRES-3SG

In the case of the periphrasis, preposing is only possible if the main verb of the periphrasis is focalized and occurs in the infinitive, and the finite verb is accompanied by the verb *to do* representing the lexical base of the gerund, as shown by Yllera (1999:3398, exs.18-20). This is not possible for the biclausal construction:

- (6) ?Dar dinheiro para caridade, é o que ele viveu fazendo.
 give-INF money for charity be-PRES-3SG that which he live-SPAST-3SG do-GER
 (Biclausal construction)
- (7) Ligar para a namorada, é o que ele vive fazendo. (Periphrasis)
 ‘Calling his girlfriend, that’s what he does all the time’

2.1.2. Intervening adverbs occurring between the two verbs

In Portuguese and Spanish only a small set of adverbs may occur between the two verbs of a complex predicate. These are the so-called “small adverbs” like *só*, *até*, *logo*, and some intensifiers like *mesmo*, *realmente*. The contrast in acceptability between (8) and (9) shows that while a temporal adverb like *ultimamente* may appear between the verb *vivia* and the gerund in (8), it is not acceptable in the same position in the aspectual periphrasis.

- (8) O vereador ... morreu no início da noite de ontem em Nova Odessa, onde vivia ultimamente trabalhando com coleta de recicláveis. (Biclausal construction)
 ‘(a politician) passed away at the beginning of last night in Nova Odessa, where he lived lately working on the collection of recyclables’
- (9) Ele vive só /*ultimamente chegando atrasado. (Periphrasis)
 he live-PRES-3SG only /*lately arrive-GER late

2.1.3. Constituents in complex verbal structures

The insertion of other constituents is generally excluded between the two verbs in the complex predicate. For this reason, the prepositional phrase *na rua* ‘on the streets’ may either occur in sentence-final position or between the two verbs in the biclausal construction, as in (10), but it may not be inserted between the two verbs in the monoclausal construction, as shown in (11):

- (10) a. Pedro vive pedindo dinheiro [*PP*na rua]. (Biclausal construction)
 ‘Pedro lives asking for money on the streets.’
 b. Pedro vive [*PP*na rua] pedindo dinheiro.
 ‘Pedro lives on the streets asking for money.’
- (11) a. Os bezerrinhos vivem nascendo perfeitos [*PP*na fazenda]. (Periphrasis)
 ‘Calves are born perfect on the farm all the time’. (adapted from Travaglia 1981)
 b. *Os bezerrinhos vivem [*PP*na fazenda] nascendo perfeitos.

In (10), the meaning of the sentence differs depending on the placement of the PP. In (a), the PP is attached to the clause headed by the verb *pedir*, and the verb *viver* means ‘to live on, to make a living from’, while in (b), the PP is a locative complement selected by the verb *viver* meaning ‘to reside’, and hence it’s a verb argument. Example (10)a. can be used in a scenario in which Pedro begs for money on the streets but lives elsewhere (e.g. in a shelter), whereas (10)b. can only be truthfully asserted if Pedro lives on the street.

2.1.4. Clitic climbing

For languages like Spanish and French, clitic climbing has been used as a criterion to identify a complex predicate (Abeillé & Godard 2010).² Clitic climbing shows that the two verb forms in the construction share the argument structure, which is inherited from the non-finite verb, and hence constitute one (complex) predicate. In the Spanish example (12), the object clitic *lo* may either form a prosodic constituent with *buscar* (the verb that subcategorizes for it) or with *andaba*, the head of the VP. Although *andar* does not subcategorize for the argument expressed by the clitic *lo*, the clitic may appear attached to this verb because *andar* forms a complex predicate with the verb *buscar*. This is due to the fact that *andar* + V_[Gerund] is a grammaticalized aspectual periphrasis.

- (12) Andaba buscándolo. – Lo andaba buscando.
 ‘(He/she) was looking for him/it’. (from Yllera 1999:3399, ex.30).

In spoken BP clitic pronouns are rare. This test can be performed with reflexive pronouns, as in (13).

- (13) Ela (?se) vive se penteando e se olhando no espelho. – Ela vive penteando-se e olhando-se no espelho.
 ‘She keeps combing her hair and looking at herself in the mirror’.

Native speakers do not accept the sentence with *se* preceding the verb *viver*, so the construction does not meet this criterion. However, the particular behavior of BP with respect to clitic pronouns makes it difficult to use this test as a reliable criterion. It should be pointed out that the criteria proposed by Abeillé & Godard (2010) do not apply uniformly to all Romance languages given language-specific differences.

The syntactic tests are summarized in Table 1.

²An anonymous reviewer expresses reservations about using clitic climbing as a criterion to single out complex predicates, even for languages that display canonical clitic climbing.

	Preposing	Adverb interpolation	Constituent interpolation	Clitic climbing
Periphrasis	No	Restricted to certain adverbs	No	X
Biclausal construction	Yes	Unrestricted	Yes	X

Table 1: Summary of syntactic tests

The aspectual periphrasis meets all the syntactic criteria presented above except for clitic climbing. Other criteria have been proposed in the literature (Laca 2004a:88); the aspectual periphrases in the Romance languages differ from biclausal constructions in that:

- (i) the whole construction inherits the argument structure and selectional restrictions of the non-finite verb;
- (ii) the anaphorization patterns of the periphrastic construction differ from those of the biclausal construction.

The construction *viver* ‘to live’ + V_[Gerund] meets these criteria. The behavior of the construction with respect to the selectional restrictions of the non-finite verb (criterion (i)) will be discussed in more detail in the next section. We turn now to the anaphorization patterns of both constructions.

2.1.5. Anaphorization patterns

In the non periphrastic construction, the manner gerund forms a separate constituent, so it is possible to anaphorically refer to it by using manner converb anaphora, replacing the constituent headed by the gerund with *assim/dessa maneira* ‘like this/in this manner’. This is not possible for the aspectual periphrasis, as shown by the contrast between (14) and (15):

- (14) a. Ele viveu ajudando as crianças. (Biclausal construction)
‘During his life, he helped the children.’
b. Ele viveu assim/dessa maneira.
‘He lived like this/in this manner.’
- (15) a. Minha ventoinha vivia fazendo barulho. (Aspectual Periphrasis)
‘My fan made noise all the time’
b. #Minha ventoinha vivia assim.

Conversely, it is not possible to anaphorically refer just to the direct object of the verb in the gerund in the case of the biclausal construction, but it is possible to do so in the case of the aspectual periphrasis. Hence, in (16), replacing the NP *a fundação* by the pronoun *ela* is not possible, but pronominalization of the NP *a filha* is acceptable in the periphrastic construction, as shown in (17).

- (16) a. O milionário viveu apoiando a fundação. (Biclausal construction)
‘During his life, the millionaire supported the foundation.’
b. #O milionário viveu apoiando ela.³
- (17) a. Pedro vive elogiando a filha. (Aspectual Periphrasis)
‘Pedro praises his daughter all the time.’

³In BP, the pronoun *ela* ‘she’ can be used for direct objects with inanimate reference. Hence, the unacceptability of the replacement by this pronoun is due to the structure of the biclausal construction, as can be shown by the acceptability of the use of the pronoun in the example *O milionário criou a fundação. O milionário criou ela*. ‘The millionaire created the foundation.’ ‘The millionaire created it.’

- b. Pedro vive elogiando ela.
 ‘Pedro praises her all the time.’

These data provide further syntactic evidence that the aspectual periphrasis is a monoclausal structure with a single predicate.

2.2. Semantic tests

The tests that will be presented in this section are closely related to the syntactic tests, as they pertain to the argument structure and selectional restrictions of the two verbs in the construction. In the biclausal construction, each predicate preserves its argument structure and the corresponding semantic restrictions. In the aspectual periphrasis, on the other hand, the verb *viver* only contributes aspectual information, and hence the argument structure and restrictions on the types of arguments are provided by the verb in the gerund.

When *viver* is a main verb, the sentence can be used to answer the question “How did [SUBJECT] live?” and the clause in which *viver* occurs may be replaced by an adverbial meaning “During [SUBJECT]’s life”, as shown by the entailment relation in (18).

- (18) Ele viveu fazendo o bem. \models Durante a vida dele, ele fez o bem. (Biclausal construction)
 ‘He lived doing good deeds’. \models ‘During his life, he did good deeds’.

Accordingly, the lexical meaning of *viver* imposes a number of semantic restrictions on the types of verbs in the gerund clause: they denote possible manners of living (for animate entities). On the other hand, in the aspectual periphrasis the restrictions on the types of verbs that may occur in the gerund are determined by the Aktionsart of the verb, as will be shown in Section 3. The entailment relation presented in (18) does not hold for the aspectual periphrasis:

- (19) Pedro vivia elogiando a filha. $\not\models$ Durante a vida dele, Pedro elogiava a filha (Periphrasis).
 ‘Pedro praised his daughter all the time.’ $\not\models$ ‘During his life, Pedro praised his daughter’.

The sentence in (19) does not convey an assertion about the manner in which Pedro lived his life, but rather describes a situation in which there is a repetition of eventualities of Pedro praising his daughter over a certain time interval. So, sentence (19) can be true in a scenario in which Pedro praised his daughter multiple times during three months and never praised her before or after that time interval.

In the periphrasis, the verb that makes the main semantic contribution and hence determines the argument structure of the complex predicate is the verb in the gerund, as will be clear in the next section.

2.2.1. Selectional restrictions

In the biclausal construction, the verb *viver* is a main verb. It selects for animate subjects. On the other hand, for the periphrasis, there is no animacy restriction on the subject, as shown by the subjects of examples (20), (21) and (22), the carburator, the city of São Paulo (where the noun phrase has the semantic role of locative) and the buses, respectively.

- (20) Meu carburador vive entupindo ou falhando.
 my carburator live-PRES-3SG get.clogged-GER or fail-GER
 ‘My carburator keeps getting stuck or failing.’
- (21) Porque São Paulo vive tendo alagamentos?
 why São Paulo live-PRES-3SG have-GER floodings
 ‘Why does S. Paulo keep having floodings?’
- (22) Os ônibus estão sucateados e vivem quebrando.
 the buses be-PRES-3PL old and live-PRES-3PL break-GER
 ‘The buses are in bad shape and they break all the time.’

Furthermore, in the periphrasis, *viver* not only does not display an animacy restriction but is also compatible with impersonal constructions. In the gerund, we may find:

Verbs denoting atmospheric conditions, like *chover*, *nevar*, *ventar*, as in (23) and (24):

- (23) Aqui só vive chovendo, até dentro dos apartamentos
 here just live-PRES-3SG rain-GER
 ‘Here it just keeps raining, even inside the apartments’
- (24) Claro, aqui em Londrina vive nevando...
 of.course here in Londrina live-PRES-3SG snow-GER
 ‘Of course, here it Londrina it keeps snowing’

The verb *ter* with existential meaning, e.g. (25):

- (25) Por aqui vive tendo greve de coleta (de lixo)
 by here live-PRES-3SG have-GER strike of pickup
 ‘Around here there keeps being garbage pickup strikes’

Impersonal verbs like *faltar*, as in (26) and (27):

- (26) Vive faltando luz direto
 live-PRES-3SG lack-GER light always
 ‘[In this neighborhood] there keep occurring power outages’
- (27) Vive faltando sinal nas torres de celular
 live-PRES-3SG lack-GER signal in.the towers of cell.phone
 ‘[The internet in this town is terrible]... the signal in the cell phone towers keeps being lost’

The compatibility of *viver* with these verbs shows that in the periphrasis *viver* has lost the selectional restrictions of its argument structure. The weakening of the lexical meaning of *viver* can also be seen by the fact that verbs that are incompatible with the lexical meaning of *viver*, like *morrer* and *nascer*, can occur in the gerund, as shown in (11) above. By the same token, (28) is not contradictory:

- (28) No meu aquário os peixes vivem morrendo.
 in.the my aquarium the fish live-PRES-3PL die-GER
 ‘In my aquarium the fish keep dying.’

The interpretation of (28) is that in my aquarium it is often the case that fish die, i.e. there are frequent events of fish dying.

There are, however, some restrictions on the classes of verbs that may occur in the gerund. These are determined by the Aktionsart of the verb, as will be shown in Section 3.3 below.

2.2.2. Aspectual restrictions

In the aspectual periphrasis, the verb *viver* is restricted to imperfective forms (Present or *Imperfeito*), hence the unacceptability of (29), where the verb *viver* occurs in a perfective past form (*Preterito Perfeito Simples*).

- (29) *Meu carburador viveu entupindo ou falhando.
 My carburator live-SPAST-3SG get.clogged-GER or fail-GER

The biclausal construction *viver* + Gerund modifier does not show such a restriction. Hence, when the verb *viver* occurs in a perfective form, it is interpreted as ‘to spend the life’ or ‘to make a living (by)’, and the verb in the Gerund must be interpreted as a clausal modifier contributing manner modification, as in (30), (31) and (32), examples from Travaglia (1981).⁴

⁴“Nos pretéritos perfeito e mais-que-perfeito do indicativo a perífrase se desfaz e o que temos é o seguinte: o verbo *viver* em um destes tempos com seu significado de “ter vida”, “passar a existência”; e o verbo no gerúndio indicando o modo como o sujeito viveu ou viverá, ou a atividade que ele executou durante a vida”, from Travaglia (1981:213), my translation: “In the Simple Past and the Indicative Pluperfect the periphrasis disappears and we have the following: the verb *viver* in one of these tenses receives the interpretation ‘to be alive’, ‘to spend one’s life’, and the verb in the gerund indicates either the manner in which the subject has lived or will live, or the activity that the subject had during his/her life”.

- (30) Seu irmão viveu sonhando ser ator,
his brother live-SPAST-3SG dream-GER be-INF actor
mas nunca fez nada nesse sentido.
'His brother spent his life dreaming of becoming an actor, but (he) never did anything to make it happen.'
- (31) Benedito viveu consertando móveis para as pessoas.
Benedito live-SPAST-3SG fix-GER furniture for the people
'Benedito lived by fixing furniture'
- (32) Selma vivera economizando para que depois os filhos esbanjassem tudo.
Selma live-PLUPERF-3SG save-GER
'Selma had saved all her life and her children ended up wasting all the money.'

These tests are summarized in Table 2:

	Clause with <i>viver</i> can be replaced by an adverbial clause	Animacy of subject required	Restrictions on types of verbs in the gerund	Compatibility with perfective forms of <i>viver</i>
Periphrasis	No	No	No (Determined by the Aktionsart of the VP)	No
Biclausal construction	Yes	Yes	Determined by lexical meaning of <i>viver</i>	Yes

Table 2: Summary of semantic tests

From these tests we can conclude that the aspectual periphrasis *viver* + Gerund is a monoclausal structure with a single predicate and differs from the same string in which *viver* is a main verb with a clausal modifier headed by a verb in the gerund.

I hypothesize that there are also phonetic differences between the two constructions. Given that the aspectual periphrasis is a grammaticalized construction,⁵ it is likely to display phonetic reduction, namely with respect to duration and pitch accent. Specifically, the hypothesis is that in the aspectual periphrasis, the duration of the verb *viver* should be shorter than in the biclausal construction, possibly by reduction of the unstressed syllable. With respect to pitch, I hypothesize that there is a pitch accent on the Gerund in the aspectual periphrases, the verb *viver* being deaccented, whereas in the biclausal construction both the verb *viver* and the verb in the Gerund receive a pitch accent. These hypotheses must be tested experimentally, and this is left for future work.

3. Aspectual properties of the verbal periphrasis *viver* + V_[Gerund]

Verbal periphrases in the Romance languages have traditionally been analyzed in terms of aspect, and event plurality has not been studied as such. This view has been challenged by Laca for the periphrases formed with motion verbs in Spanish (Laca 2004a,b, 2005). Both Portuguese and Spanish

⁵While the scope of this paper is synchronic, there is a diachronic relation between the biclausal construction and the aspectual periphrasis. Squartini claims that the construction *viver* + Gerund is at an initial stage of grammaticalization (Squartini 1998:289). However, given the pattern of co-occurrence with verbs like *morrer*, *nascer*, as well as the absence of the subject animacy requirement, which indicates the loss of the argument structure associated with the lexical meaning of *viver*, this view can be disputed. A comparison with the process of grammaticalization of STARE + Gerund in Ibero-Romance may be useful to this purpose. In the case of STARE, the criteria that show the expansion of the contexts of occurrence of this verb as it acquires an aspectual meaning are compatibility with inanimate subjects and compatibility with verbs of movement and with gradual completion verbs, i.e. classes of verbs that are incompatible with the lexical meaning of STARE (see Laca 2000 and references cited there). The periphrasis *viver* + Gerund is compatible with inanimate subjects and with verbs that are incompatible with the lexical meaning of *viver* (like *morrer* 'to die').

have two periphrases, one formed with the verb of oriented motion *ir* ‘to go’ + Gerund, and one with *andar* ‘to walk’, a verb that denotes non-oriented motion, + Gerund⁶, as in (33) and (34).

- (33) Los invitados fueron saludando al dueño de casa.
the guests go-SPAST-3PL greet-GER to-the owner of house
‘The guests successively greeted the host.’ (from Laca 2004a)
- (34) Juan les anda contando un chiste a los estudiantes.
Juan them walk-PRES-3SG tell-GER a joke to the students
‘Juan is telling the students a joke.’ (from Laca 2004a)

Building on the work by Van Geenhoven (2004), the former periphrasis has been analyzed by Laca as an incremental pluractional conveying gradual and successive action, whereas the latter has been analyzed as a frequentative pluractional, conveying a repetition of events of the same type. While the periphrasis with *ir* displays variable telicity, the periphrasis formed with *andar* introduces an atelic description. In the next sections, I follow Laca’s analysis in treating *viver* + V_[Gerund] as conveying pluractional meaning.

3.1. Relation with aspect

Cross-linguistically, auxiliary verbs denoting spatial location like *be at*, *stay*, as well as *live* and *reside* are lexical sources of progressive aspect, as is the case e.g. in Hindi and Lahu (see Bybee, Perkins & Pagliuca 1994; Bertinetto 2000). So, a relevant question is whether the periphrasis formed with the verb *viver* conveys progressive aspect.

In order to answer this question, one must identify precisely the contribution of aspect. Aspect establishes a relation between: AST-T - *Assertion Time*, the time to which an assertion is confined, also called the “interval of visibility”, and EV-T - *Event Time*, the time associated with the event corresponding to the eventuality description⁷ (Klein 1995; Demirdache & Uribe-Etxebarria 2002; Smith 1991). Aspect introduces a viewpoint on the event, either by presenting the eventuality as ongoing, i.e. without providing information about its boundaries, or by presenting it as a whole, and hence as being completed (by viewing its boundaries).

Adopting the proposal by Demirdache & Uribe-Etxebarria (2002) pertaining to the meaning of different aspectual operators, I assume that the different aspectual notions can be conceived as predicates (e.g. IN, AFTER) that take two time intervals as arguments. On this view, the contribution of the Progressive is an inclusion relation (IN) between Assertion Time and Event Time: $AST-T \subset EV-T$, which is schematically represented in Figure 1.

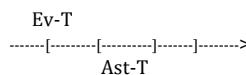


Figure 1: Interpretation of the progressive (Demirdache & Uribe-Etxebarria 2002:131)

The Progressive “views” a phase (interval) inside the temporal structure of an eventuality and this interval does not include the boundaries of the eventuality. So, for example in (35), the use of the progressive introduces a temporal interval during which Pedro eats a certain apple. This interval is a part of the apple-eating event and does not include its beginning or its end.

- (35) Pedro está comendo uma maçã.
‘Pedro is eating an apple.’

Considering now the periphrasis formed with *viver*, we see that (36) receives a different interpretation. The example does not introduce an interval within the temporal realization of an eventuality. Rather,

⁶This is true for Spanish and for Brazilian Portuguese. In European Portuguese, these periphrases are formed with the same verbs but in the periphrasis with *andar* the non-finite verb is in the Infinitive and is introduced by the preposition *a*.

⁷This is also known as the temporal trace of the event.

(36) describes a repetition of a certain eventuality over time (the eventuality of eating an apple). Here, what is repeated is the event of eating (from) the same apple, which renders the sentence anomalous.

- (36) ?Pedro vive comendo uma maçã.
 ‘Pedro keeps eating (from) the same apple (on and off).’

No ordering relation between AST-T and EV-T can capture the meaning of *viver* + Gerund. The periphrasis introduces a pattern of occurrence of an eventuality. This pattern is also independent of the location of the eventuality on the time axis (i.e. it is independent of tense).

This difference yields a contrast in the distribution of the progressive vis-à-vis the periphrasis formed with *viver*. One may situate an eventuality with respect to another by using the progressive (Bertinetto 2000), but not by using *viver* + Gerund, as shown by the contrast in (37).

- (37) Quando eu entrei, Pedro estava/*vivia comendo uma maçã.
 ‘When I came in, Pedro was eating/*viver +GER an apple’.

I conclude that *viver* + V_[Gerund] does not convey progressive aspect. Rather, the periphrasis describes a pattern of occurrence of the eventuality of type V for a certain time interval, i.e. it describes a temporal structure. The properties of this temporal structure will be analyzed in the next sections.

3.2. Eventuality modification

The periphrasis *viver* + Gerund introduces an atelic description, as can be shown by the compatibility with the adverbials introduced by *durante* ‘for’ vs *em* ‘in’:

- (38) Ele vive escrevendo o livro durante horas/*em duas horas.
 ‘He keeps working on the same book (on and off) for hours/*in two hours.’

Sentence (38) denotes a repetition of sub-events of book-writing over an extended time interval whose boundaries are not given. With the accomplishment predicate *escrever o livro*, the periphrasis entails that the event does not reach its completion: he keeps writing parts of the (same) book without finishing it, as can be made explicit by the continuation in (39):

- (39) Ele vive escrevendo o livro, mas ainda não acabou.
 ‘He keeps writing (on) the book, but hasn’t finished it yet.’

Another example of how the periphrasis modifies the basic eventuality description is given in (40). Given that an event of breaking is telic and normally only takes place once for an object like a plate, (40) is only acceptable under the interpretation that the plate undergoes several partial or minimal breakings that do not cause the whole plate to be broken (for example, in a scenario in which there are multiple superficial cracks or fissures but the plate can still be used).

- (40) Esse prato vive quebrando.
 that plate live-PRES-3SG break-GER

Crucially, the meaning of the periphrasis plays a role in event individuation and segmentation, and hence the telic eventuality is reinterpreted in terms of multiple partial breakings that do not affect the integrity of the internal argument of the verb.

The periphrasis receives a frequentative interpretation, roughly meaning *very often, all the time, to keep V* (Squartini 1998; Mória & Viotti 2004). Could the meaning of *viver* + Gerund be accounted for as involving generic quantification over situations, similarly to adverbs like *sempre* ‘always’? This periphrasis differs from *sempre* in several respects, e.g. in its pattern of interaction with nominal arguments. For example, in (41), which is a generic statement about Pedro’s habits, the adverb *sempre* ‘always’ interacts with the verb phrase in the following way: for each time interval relevant in the context (in this case, the lunch times), Pedro eats an apple each of those times.

- (41) Pedro sempre come uma maçã (ao almoço). [generic statement]
 ‘Pedro always eats a (different) apple (at lunch).’

The interpretation obtained is that for each event, a different apple is eaten, i.e. the adverb *sempre* displays multiplication effects with singular indefinite objects (in this case *uma maçã*). But the aspectual periphrasis does not: as we have seen, (36) means that the same apple is eaten over and over again on multiple occasions, and the sentence is anomalous.

In this respect, the periphrasis behaves similarly to the periphrases formed with verbs of motion *andar* and *ir* + Gerund in Spanish, analyzed by Laca (2006): these constructions share a specific pattern of distributive dependencies with nominal complements. Neither of these constructions can multiply participants if the object of the verb is an indefinite singular, but they are compatible with plural participants expressed by a bare plural, a bare singular, a definite plural, or a universally quantified NP (Laca 2006; Schmitt & Munn 2003):

- (42) Pedro vai / anda comendo ?uma maçã/ maçãs/ maçã/ as maçãs/ todas
 Pedro go-PRES-3SG / walk-PRES-3SG eat-GER an apple apples apples the apples all
 as maçãs.
 the apples
 ‘Pedro is eating ?(from) the same apple on and off/apples/the apples/all the apples’.

There is another difference between the periphrasis and the behavior of an adverb like *sempre*, as shown by comparing (43) and (45). A dyadic quantifier like *sempre* introduces a structure consisting of a domain restriction and a nuclear scope, represented in a simplified way in (44). In (43), the temporal clause provides the domain restriction of the quantifier: the relevant situations over which the adverb quantifies are those in which the speaker reads the newspaper.

- (43) Quando eu leio o jornal, eu sempre me deprimido.
 ‘When I read the newspaper, I always get depressed’.
- (44) SEMPRE_s [I-read-newspaper(s)] [I-get-depressed(s)]
 ‘Every situation *s* in which I read the newspaper is such that I get depressed in *s*.’

The periphrasis does not display the same type of structure, and hence cannot accept a domain restriction, as shown by the unacceptability of (45):

- (45) ?Quando eu leio o jornal, eu vivo me deprimindo.
 when I read-PRES-1SG the newspaper I live-PRES-1SG REFL-1SG get.depressed-GER

For these reasons, the meaning of *viver* + Gerund cannot be accounted for in terms of the relation between AST-T and EV-T or in terms of generic quantification over situations (or times). Rather, it introduces a particular temporal structure for the event denoted by the verb in the gerund. This type of contribution corresponds to what Laca calls “a ‘lexical’ level, at which the temporal structure of the basic eventuality description is modified” (Laca 2006:3).⁸ Since the temporal structure introduced by the periphrasis is not compatible with every type of eventuality, there are restrictions on the types of predicates that it may occur with, as will be shown in the next section.

3.3. The periphrasis *viver* + $V_{[Gerund]}$ as a frequentative operator

The periphrasis introduces an unbounded repetition of (sub-)events with a discontinuous realization within an extended time interval.

The selectional restrictions of the periphrasis with respect to the verb in the gerund are based on the Aktionsart of the VP. Predicates that denote permanent states that cannot be realized in a discontinuous manner, like *be tall*, *be blond*, may not occur in this periphrasis. On the other hand, predicates that may hold at certain times and not hold at others, like *be nice*, are acceptable in the periphrasis.

- (46) Pedro vive sendo *alto/*louro/*brasileiro/gentil.
 Pedro live-PRES-3SG be-GER tall/blond/Brazilian/nice
 ‘Pedro keeps being *tall/*blond/*Brazilian/nice’

⁸This view is in accord with the proposals by Cusic (1981) and Wood (2007), who analyze pluractional categories as a type of Aktionsart.

Only verbs denoting eventualities that may be repeated may occur in the Gerund in this construction. For example, since one bomb may only explode once, the singular definite *a bomba* yields an anomalous sentence in (47). However, the example becomes acceptable with a plural subject, since the repetition of events over a time interval is now realized by the occurrence of multiple events - involving multiple participants (several bombs) and multiple times.

- (47) ?A bomba/bombas vive(m) rebentando nesse país.
 ?The bomb/bombs live-PRES-3PL explode-GER in.that country
 ‘There are bomb explosions in that country all the time.’

The properties just described have been associated cross-linguistically to the contribution of pluractional operators (Cusic 1981; Lasersohn 1995; Landman 2000; Van Geenhoven 2004; Laca 2006; Wood 2007). The concept of pluractionality was introduced by Newman (1990) and refers to the grammaticalized expression of event plurality, usually marked on the verb or within the VP. In the verbal domain, the notion of plurality may correspond to “multiple participants, times or locations” (Lasersohn 1995:240). The notion of plurality as it applies to events has been used to analyze the contribution of aspectual categories like *iterative* or *frequentative* in a precise manner.

I propose to analyze the meaning of *viver* + $V_{[Gerund]}$ as a frequentative pluractional, along the lines of Van Geenhoven’s ‘crystal star’ operator, as in (48):⁹

- (48) FREQUENTATIVE: $*!V(x)$ at $t = 1$ iff
 $\exists t' (t' \subset t \wedge V(x)$ at $t' \wedge \text{number}(t') > 1 \wedge \forall t'' (t'' \subset t \wedge V(x)$ at $t'' \rightarrow \exists t''' (t''' \subset t \wedge (t''' > t' \vee t''' < t') \wedge V(x)$ at $t''' \ \& \ \exists t'''' (t'' < t'''' < t'' \vee t'' > t'''' > t'') \wedge \neg V(x)$ at $t'''' \ \& \ 0 < \text{length}(t'''')) \leq n$)) (adapted from Van Geenhoven 2004:159, ex. 63)

Assuming a semantics with times (not events), this representation ensures that the interval at which the frequentative construction holds contains more than one sub-interval at which the eventuality denoted by the verb holds, and that each of these sub-intervals is preceded or followed by a sub-interval at which that eventuality holds. The last conjunct of (48) ensures that any two sub-intervals are separated by a sub-interval at which the eventuality does not hold, this sub-interval having a contextually-determined length. This last conjunct ensures the discontinuous realization of sub-events described above. In (48), n is a contextually appropriate norm.

In sum, the frequentative operator introduces a repetition of events of the type denoted by V that takes place discontinuously a number of times considered more than usual or normal. Crucially, this interpretation is better described as involving lexical (or situation) aspect rather than viewpoint aspect.

4. Conclusion

In this paper, I have proposed that the construction *viver* + $V_{[Gerund]}$ in BP is a monoclausal periphrasis that can be distinguished from the biclausal construction formed by *viver* followed by a verb in the Gerund that contributes manner modification. I have proposed to analyze the meaning of the periphrasis as a type of eventuality description with pluractional meaning, following Laca (2004a, 2006). I have argued that *viver* + $V_{[Gerund]}$ behaves like a frequentative pluractional.

For Portuguese and Spanish, pluractionality seems to be mainly contributed by aspectual periphrases. Previous work has shown that periphrases formed with verbs of motion like *ir* and *andar* contribute this type of meaning. This paper shows that a periphrasis formed by a verb of location, *viver*, also has pluractional meaning. A possible direction of future research is to consider the relation between the lexical properties of the auxiliary verb and the temporal structure of the complex predicate, giving rise to conditions on the type of eventuality description contributed by the verbal construction. From a historical perspective, little is known about the development of auxiliary verbs as sources of pluractional constructions, which seems particularly relevant for the Romance languages. The diachronic development of this construction is left for further work.

⁹In this representation, I am abstracting away from the possible contribution of imperfective aspect to the meaning of the periphrasis.

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