

THE SEMANTIC PROPERTY *MOTION* IN THE LEXICAL REPRESENTATION OF BRAZILIAN PORTUGUESE VERBS

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- **ABSTRACT:** In this paper, we (i) describe semantic and syntactic behavior of motion verbs in Brazilian Portuguese, (ii) analyze the lexicalization pattern of these verbs and (iii) determine how motion is represented in the lexical structure of verbs by means of primitive predicates decomposition metalanguage. We propose that all Brazilian Portuguese motion verbs lexicalize the execution of an event instead of the path or manner of motion dichotomy, as proposed in many linguistics papers. However, although motion verbs show the same pattern of lexicalization, they cannot be considered as belonging to a single verb class, because they differ in number and type of their arguments, in their lexical aspect and in their unaccusativity behavior. Thus, Brazilian Portuguese motion verbs are divided, at least, into five different classes. Each class presents its own semantic representation.
- **KEYWORDS:** Lexicalization. Primitive predicates decomposition. Verb classes. Motion verbs.

Introduction

Although it is widely accepted by many researchers that the nomenclature ‘motion verbs’ refers to verbs such as *run, get out, get up, throw, swing, etc.* (TALMY, 1985, 2000; JACKENDOFF, 1990; LEVIN; RAPPAPORT HOVAV, 1992; LEVIN, 1993; BEAVERS; LEVIN; THAM, 2010; AMARAL, 2010, 2013; DEMONTE, 2011; ZUBIZARRETA; OH, 2011; MENUZZI; RIBEIRO, 2011; GODOY, 2012; SOUTO, 2014; SILVA JÚNIOR, 2015, among others), defining the concept of *motion* as a semantic component is not an easy task, since few linguists are worried about this.

For example, Talmy (1985, 2000) proposes that a motion event is any situation that contains motion or stationary location. So the author considers motion events sentences of two types: *the artist went to Paris* and *the mug is on the table*. In a similar way, Demonte (2011) argues that motion events describe situations in which one entity

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moves in relation to another, going through a path. Thus, according to her, verbs such as *arrive*, *come back* and *dance* show how “people and things change their place and orientation in space” (DEMONTE, 2011, p. 17).

However, these definitions are too broad, since many verbs, which are not treated as verbs of motion, fit the concept of ‘motion event’ given by Talmy (1985, 2000) and by Demonte (2011). Consider the example of the verb *enterrar* ‘to bury’ in the sentence *o cachorro enterrou o osso no jardim* ‘the dog buried the bone in the garden’. We can say that this sentence describes an event in which there is motion, since *the dog* makes a movement with its paws causing the bone to change of place, being buried *in the garden*. However, in a broad analysis of Brazilian Portuguese (BP) verbs of change, Cançado, Godoy and Amaral (2013) propose that the verb *enterrar* ‘to bury’ belongs to the class of change of locative state verbs, because it entails that an entity is in a state, and it is in a determined place, that is, that *the bone is buried in the garden*.

Silva Júnior (2015) affirms that BP motion verbs denote that an object changes its place by some kind of movement. Thus, according to the author’s definition, the verb *enjaular* ‘to cage’ in the sentence *o domador enjaulou o leão* ‘the tamer caged the lion’ would be a motion verb, because *the lion* is moved by *the tamer*, becoming in the cage. Nevertheless, Cançado, Godoy and Amaral (2013) propose that this verb belongs to the class of change of place verbs, because it entails that an entity changes its place and this place’s name is expressed by verb root. Thus, the name *jaula* ‘cage’ is inside the verb *enjaular* ‘to cage’.

Taking a brief look at these definitions, we see that delimiting the concept of *motion* is not simple, since several situations in the world can denote different types of motion.

The purpose of this paper, then, is to analyze the real importance of *motion* semantic property and to establish whether this property really should be represented in the lexical structure of “BP motion verbs classes”. Examples of these verbs in BP are: *correr* ‘to run’, *sair* ‘to get out’, *levantar* ‘to get up’, *lançar* ‘to throw’, *balançar* ‘to swing’, etc. We understand verb classes as groups of verbs that share semantic properties capable of determining their syntactic behavior (LEVIN, 1993; PESETSKY, 1995; GRIMSHAW, 2005; CANÇADO; GODOY; AMARAL, 2013). And the term *lexical structure* (or also *argument structure*, *semantic/lexical representations*, *semantic structure*), refers to the semantic representation of verb classes, or of a specific verb (CANÇADO; GODOY, 2012; CANÇADO; GODOY; AMARAL, 2013).

This paper presents, in addition to the introduction, a second section that gives an overview of how motion verbs are treated in the linguistic literature. From the third to the seventh section we describe the classes by which BP motion verbs are distributed. The eighth section presents our final considerations.

The semantic property *Motion*

There is consensus in the literature that the so-called ‘motion verbs’ do not constitute a single verb class in several languages (TALMY, 1985, 2000; JACKENDOFF, 1990; LEVIN; RAPPAPORT HOVAV, 1992; LEVIN, 1993; BEAVERS; LEVIN; THAM, 2010, among others).

In general, authors propose that there are two types of motion verbs: (i) path verbs, which include in their meaning the direction of motion, such as *arrive*, *come* and *go*, and (ii) manner of motion verbs, which denote the way the motion occurs, such as *run*, *walk*, *swing*, and *spin*.

According to Levin and Rappaport Hovav (1992), path verbs are unaccusative¹ and denote *achievements*², while manner of motion verbs are subdivided into two types: *spin* verbs, which are also unaccusative, but denote activities,³ and *run* verbs, which also denote activities, but are unergative⁴.

Talmy (1985, 2000) and Levin and Rappaport Hovav (1992) argue that the semantic properties *manner* and *direction of motion* are in complementary distribution, since both cannot be lexicalized at the same time by the same verb. Regarding this lexicalization pattern, Beavers, Levin and Tham (2010) propose that it arises from a broader constraint, proposed by Rappaport Hovav and Levin (2010), called MANNER/RESULT complementary hypothesis. According to this hypothesis, all the activity verbs lexicalize the *manner* component and all the other verbs, except the stative⁵ ones, lexicalize a *result* meaning.

Silva Júnior (2015) opposes Talmy (1985, 2000) and Levin and Rappaport Hovav (1992) proposals, claiming that BP motion verbs are not distinguished in path verbs and manner of motion verbs, since the same verb can convey either the path or the way the motion occurs. The author (2015) gives the following examples:

- (1) O acidentado saiu andando do carro.⁶
‘The person who suffered an accident got out walking from the car.’
- (2) O bêbado andou cambaleando.
‘The drunk walked staggering.’

(SILVA JÚNIOR, 2015, p. 49).

¹ Unaccusative verbs have only one argument that presents object properties and therefore occupies the position of internal argument in the deep structure, although it can be raised to the subject position, according to a generative approach.

² Achievement verbs describe punctual events that do not develop over time.

³ Activity verbs describe events that develop over time without a telus.

⁴ Unergative verbs, as opposed to unaccusative ones, have only one argument that presents subject properties. Thus, this argument occupies the external argument position in the deep structure.

⁵ Stative verbs do not denote events, since they do not have an internal dynamic. They do not indicate a process that develops in time.

⁶ The examples of this paper are accompanied by glosses when translations fail to express the syntactic-semantic properties of BP. Glosses are indicated between brackets.

According to him, the verb *andar* ‘to walk’ emphasizes the manner of motion in (1) and the path in sentence (2). In addition, for him, there are verbs that convey only the manner of motion, such as *rodopiar* ‘to twirl’ e *balançar* ‘to swing’. Thus, he argues that the BP verbs differ in relation to the presence or absence of translation in their lexical structure. Verbs of translation are those denoting that an entity moves, changing its place.

Thus, BP motion verbs, according to his analysis, are divided into three distinct classes: (i) translation verbs, such as *subir* ‘to go up’, *descer* ‘to go down’, *entrar* ‘to get in’, *sair* ‘to get out’; (ii) manner of motion verbs, such as *balançar* ‘to swing’, *girar* ‘to spin’, *dançar* ‘to dance’; and (iii) verbs of manner and translation, such as *correr* ‘to run’, *marchar* ‘to march’, *andar* ‘to walk’.

However, it does not seem a good idea to classify BP motion verbs in relation to the presence or absence of translation, since a verb that denotes manner of motion, such as *dançar* ‘to dance’, can also denote translation in sentences such as *a bailarina dançou pelo salão* ‘the ballet dancer danced through the ballroom’. Likewise, verbs that denote translation, according to Silva Júnior (2015), can denote an event in which an entity does not change its place, as we can see in the sentences *a mulher andou/ correu na esteira* ‘the woman walked/ ran on the treadmill’, *os soldados marcharam todos no mesmo lugar* ‘the soldiers marched without leaving their places’.

We intend to show that BP motion verbs lexicalize neither the manner of motion nor only the path, contrary to what is proposed in the linguistic literature (TALMY, 1985, 2000; JACKENDOFF, 1990, LEVIN; RAPPAPORT HOVAV, 1992; LEVIN, 1993, BEAVERS; LEVIM; THAM, 2010; AMARAL, 2010, 2015; DEMONTE, 2011; MENUZZI; RIBEIRO, 2011; GODOY, 2012; SOUTO, 2014; SILVA JÚNIOR, 2015).

Cançado and Amaral (2016) proposed, following Jackendoff (1990), that the semantic component lexicalized by the verb can be expressed “[...] by names or adjectives related to the verb and these lexical items can be expanded in phrases which have some of the verb arguments [...]” (CANÇADO; AMARAL, 2016, p. 207). Consider the verb *quebrar* ‘to break’ in sentence (3a). It is a verb that lexicalizes an entity’s change of state since this entity changes from a not broken state to a broken state (CANÇADO; GODOY; AMARAL, 2013). The meaning ‘become state’ (PARSONS, 1990) is evidenced by the sentence (3b), in which the verb *ficar* ‘to become’ joined the entity affected by the action to the adjective or verbal participle, which denotes the result encoded by the verb, evidences the meaning of *become state*.

- (3) a. O menino quebrou o vaso de flor.
 ‘The boy broke the flower pot.’
 b. \vdash O vaso de flor ficou quebrado.⁷
 ‘The flower became broken.’

⁷ The symbol \vdash indicates entailment (CANN, 1993).

Now, let's take a look at the motion verb *correr* 'to run'. This verb accepts a cognate nominal phrase, which encodes an event in the world (AMARAL, 2013), and derives a nominal phrase that also denotes an event.

- (4) a. O atleta correu uma corrida perfeita.
[the athlete run- SP⁸ a run-PART⁹ perfect]
'The athlete ran a perfect race.'
b. A corrida do atleta durou uma hora.
[the run-PART of the athlete lasted one hour]
'The athlete's race lasted one hour.'

The syntactic property of accepting a cognate object denoting an event and the morphosyntactic property of deriving a nominal phrase, in which the subject of the verb is the complement of the name, reveals that the verb lexicalizes the realization of an event in the world rather than manner of motion or path only.

We intend to show that all BP motion verbs lexicalize the realization of an event, although they do not constitute a single verb class¹⁰. They differ in relation to the number and type of their arguments, in their lexical aspect, in their unaccusativity behavior, and in the participation in some alternations such as *a cortina balançou* 'the curtain swung'/*o vento balançou a cortina* 'the wind swung the curtain', but not in *o atleta correu* 'the athlete ran' / **o treinador correu o atleta* 'the coach made the athlete run'. Caçado and Amaral (2015) propose that agentive activity BP verbs do not constitute a single verb class, and also do not lexicalize the manner of acting. We endorse the authors' proposal arguing that motion verbs of that language are also a problem for MANNER/ RESULT complementarity hypothesis of Rappaport Hovav and Levin (2010), since they lexicalize a distinct semantic component of manner and result, which is the realization of an event.

Thus, our main goal is to discover the *motion* semantic property relevance to the lexical structure of BP verbs. In order to do this, we analyzed 86 verbs, collected through Borba (1990), that denote a kind of motion. For each verb, we created sentences using our intuition of native BP speakers. We check our intuition through attested data from Google search platform.

We analyze the semantic and syntactic behavior of verbs by checking the number of their arguments, testing their lexical aspect and their behavior in relation to unaccusativity, analyzing their participation in verb alternations and the semantic component that each verb lexicalizes. All of these tests, except for the one that evidences the semantic component lexicalized by the verb, which has already been shown in this section, will be explained further.

⁸ SP means 'simple past'.

⁹ PART means 'past participle'.

¹⁰ Amaral (2010, 2013, 2015), Corrêa e Caçado (2006), Godoy (2012), Souto (2014) e Silva Júnior (2015) have already mentioned that BP motion verbs do not constitute a single verb class.

According to the test results, we grouped the verbs into semantic classes and provided for each class a lexical structure by means of primitive predicate decomposition metalanguage. We define whether specific primitives that encode motion must be present in the semantic representations. We assume, following Dowty (1979), Pinker (1989), Jackendoff (1990), Levin e Rappaport Hovav (2005), Beavers (2010) e Cançado, Godoy e Amaral (2013), that verb meaning is best represented by means of the primitive predicates decomposition metalanguage. This is a metalanguage that assumes that the meaning of a word, especially of verbs, is composed of smaller parts of meaning called semantic primitives.

Having seen a brief overview of how motion verbs are treated in the literature, let us turn to the description of these verbs in BP and the classes to which they belong.

Event realization verbs

We call ‘event realization verbs’ verbs such as *correr* ‘to run’, ‘*caminhar/andar*’ ‘to walk’, *pular/saltar* ‘to jump’, *galopar* ‘to gallop’, etc that encode activities and are unergative.

- (5) O menino estava correndo. † O menino correu.
 ‘The boy was running.’ † ‘The boy ran.’
- (6) O menino correu uma corrida triunfante.
 [the boy run-SP a run-PART triumphant]
 ‘The boy ran a triumphant race.’

The activity aspect is evidenced by the test of imperfective paradox (5), once verbs that denote activities, when placed in the imperfective form, entail that the action was already performed. Sentence (6) evidences that these verbs are unergative since they accept a cognate object.

It is important to mention that, although they basically denote activities, these verbs can denote accomplishments¹¹ when combined with noun phrases or with prepositional phrases indicating an ending point/telus: *o atleta correu 5 km* ‘the athlete ran 5 km’ / *João caminhou até o trabalho* ‘João walked until work’. These are examples of what Cançado and Amaral (2016) call, based on Smith (1997), ‘derived aspect’ or ‘sentence aspect’.

Rappaport Hovav and Levin (1998) propose the following structure for *run* verbs, since they are considered manner verbs in a general way:

¹¹ Accomplishment verbs denote events that develop over time and have a culmination point: *o menino quebrou o vaso de flor* ‘the boy broke the flower pot’ / *o Ricardo construiu uma casa* ‘Ricardo built a house’.

- (7) *run* ‘correr’: [X ACT _{<MANNER>}]
 (RAPPAPORT HOVAV; LEVIN, 1998, p. 109).

Unlike the authors, Jackendoff (1990) represents these verbs by means of a specific manner of motion primitive MOVE:

- (8) v: [_{Event} MOVE ([_{Thing}])]
 (JACKENDOFF, 1990, p. 99).

Amaral (2013) proposes that BP *correr* ‘to run’ verbs lexicalize the realization of an event in the world, so they must have an <EVENT> root in their semantic structure. Her argumentation can be evidenced by the presence of a cognate object that specifies the event performed by some entity.

- (9) O atleta correu a corrida final do campeonato.
 [the athlete run-SP the run-PART final of the championship]
 ‘The athlete ran the final race of the championship.’
- (10) O atleta nadou um nado borboleta.
 [the athlete swin-SP a swin-PART butterfly]
 ‘The athlete swam a butterfly stroke.’
- (11) O homem caminhou a caminhada do dia.
 [the man walk- SP the walk-PART of the day]
 ‘The man walked the walk of the day.’

(Adapted from AMARAL, 2013, p. 59).

The author bases her proposal on Jackendoff’s (1990) argumentation that cognate phrases specify some components of verb meaning. Thus, in the sentence (9), for example, the nominal phrase *a corrida final do campeonato* ‘the final race of the championship’ is a specification of the running event and, then, the notion of event must be contained in the verb meaning.

Amaral (2013) affirms that we can do paraphrases for *correr* ‘to run’ verbs through the verb *fazer* ‘to do’, which corresponds to primitive DO (ROSS, 1972; DOWTY, 1979; VAN VALIN, 2005), associated with names that denote events¹²:

- (12) O João correu 5 km hoje. † † O João fez uma corrida de 5 km hoje¹³.
 ‘João ran 5 km today.’ ‘João do a 5 km race today.’
- (13) A menina já caminhou hoje. † † A menina já fez sua caminhada hoje.
 ‘The girl already walked today.’ ‘The girl already did her walk today.’

¹² Similar proposal can be seen in Pinker (1989) who affirms that the unergative verbs can be paraphrased as ‘perform some action or activity’.

¹³ Symbol † † means paraphrases (CAN, 1993).

- (14) As crianças gostavam de nadar cachorrinho. † †As crianças gostavam de fazer nado cachorrinho.
 ‘Children like dog paddling.’ † ‘Children like doing dog paddle.’
 (AMARAL, 2013, p. 60).

The primitive DO was initially proposed by Ross (1972), being intrinsically related to action and agentivity. Latter, Dowty (1979) uses this primitive as an aspectual operator. But for both authors, DO relates an entity to an event.

Amaral (2013) reformulates the authors’ proposal and concludes that DO is not related to the notion of agentivity, since there are verbs that lexicalize events performed by non-volitional subjects such as *chorar* ‘to cry’ and *espirrar* ‘to sneeze’ (*o menino chorou involuntariamente* ‘the boy cried involuntarily’/ *a criança espirrou acidentalmente* ‘the child accidentally sneezed’). Thus, the primitive DO has only the function of relating an entity X to an event.

In this way, the author proposes the following structure for *correr* ‘to run’ verbs:

- (15) v: [X DO <EVENT>]
 a. *correr* ‘to run’: [X DO <CORRIDA>]
 b. *nadar* ‘to swim’: [X DO <NADO>]
 c. *caminhar* ‘to walk’: [X DO <CAMINHADA>]

Finally, we point out, following Amaral (2013), that verbs such as *correr* ‘to run’, *nadar* ‘to swim’, *andar/ caminhar* ‘to walk’, *pular* ‘to jump’ have *motion* semantic component as an idiosyncratic¹⁴ property, since there are verbs that do not encode motion, but behave in the same way as those described in this section.

- (16) a. O menino chorou por horas.
 ‘The boy cried for hours.’
 b. O menino chorou um choro triste.
 ‘The boy cried a sad cry.’
 (17) a. A menina riu alto.
 ‘The girl laughed loudly.’
 b. A menina riu uma risada escandalosa.
 ‘The girl laughed a scandalous laugh.’
 (18) a. O velho roncou a noite toda.
 ‘The old man snored the whole night.’
 b. O velho roncou um ronco profundo.
 ‘The old man snored a deep snore.’

¹⁴ Idiosyncratic properties are represented in the root (ontological category that comes between angled brackets) in the primitive predicates decomposition metalanguage.

This class includes a total of 33 verbs¹⁵ and 22 of them denote motion: *andar* ‘to walk’, *correr* ‘to run’, *cavalgar* ‘to ride a horse’, *dançar* ‘to dance’, *desfilas* ‘to parade’, *engatinhar* ‘to crawl’, *exercitar* ‘to exercise’, *galopar* ‘to gallop’, *marchar* ‘to march’, *mergulhar* ‘to dive’, *nadar* ‘to swim’, *pular/ saltar* ‘to jump’, *passar* ‘to wander’, *rebolar/ requebrar* ‘to lie around’, *sambar* ‘to dance samba’, *sapatear* ‘to tap-dance’, *viajar* ‘to travel’, *voar* ‘to fly’.

Path verbs

The term “path verbs” (TALMY, 1985, 2000; JACKENDOFF, 1983, 1990) or “verbs of inherent directed motion” (LEVIN; RAPPAPORT HOVAV, 1992; LEVIN, 1993, DEMONTE, 2011, ZUBIZARRETA; OH, 2011) refers to verbs that include in their meaning the specification of the direction of motion such as *get out* and *get in*. However, in BP, there are typical path verbs, such as *partir* ‘to leave’, *regressar/ retornar* ‘to return’ and *voltar* ‘to come back’ (LEVIN, 1993; DEMONTE, 2011), which do not appear to have an obvious directional meaning.

(19) ⊥¹⁶O menino saiu para dentro.

⊥ ‘The boy got out inside’

(20) ⊥ O menino entrou para fora.

⊥ ‘The boy got in outside’

(21) a. O soldado partiu/ regressou/ retornou/ voltou para a guerra/ da guerra.
 ‘The soldier left/ returned / returned /came back to the war from the war’

b. O soldado partiu/ regressou/ retornou/ voltou pra lá/ de lá/ daqui.
 ‘The soldier left / returned / returned / came back to there / from there / from here’

Sentences (19) and (20) are contradictory because the prepositional phrase contradicts the direction conveyed by the verbs’ meanings. This shows that these verbs actually lexicalize some directional motion. However, the sentence in (21b) shows that verbs such as *partir* ‘to leave’, *regressar/ retornar* ‘to return’ and *voltar* ‘to come back’ do not seem to encode a directional meaning since we cannot deny it.

¹⁵ Amaral (2013) lists the following verbs that do not denote motion, but which belong to this class: *chorar* ‘to cry’, *espirrar* ‘to sneeze’, *gargalhar* ‘to laugh out loud’, *gemer* ‘to moan’, *rir* ‘to laugh’, *roncar* ‘to snore’, *soluçar* ‘to hiccup’, *soprar* ‘to blow’, *sorrir* ‘to smile’, *suspirar* ‘to sigh’, *tossir* ‘to cough’.

¹⁶ The symbol ⊥ indicates contradiction (CANN, 1993).

Nevertheless, all path verbs have two arguments: a noun phrase that moves along a path (Theme) and a prepositional phrase that expresses this path (Source or Goal)¹⁷ (LEVIN, 1993; DEMONTE, 2011; CORRÊA; CANÇADO, 2006; SOUTO, 2014):

- (22) O menino saiu da sala. → Source
 ‘The boy got out the room.’
- (23) A criança entrou no quarto da mãe¹⁸. → Goal
 ‘The child got into her mother’s room.’
- (24) A moça voltou para casa. → Goal
 ‘The woman came back home.’

Both Theme noun phrase and Path prepositional phrase are internal arguments of verbs, so that these verbs are considered to be unaccusative verbs of two places (LEVIN, 1993; MUNHOZ, 2011; MUNHOZ; NAVES, 2012). Their unaccusativity is evidenced by the arguments’ postponement and by the absence of a cognate object. This shows that the internal argument position is already filled:

- (25) a. Entrou uma criança no quarto.
 [Entered a child into the room]
 ‘A child entered the room’
- b. *A criança entrou uma entrada triunfante no quarto.
 [the child entered an entrance triumphant into the room]
 ‘The child entered a triumphant entrance into the room.’

In relation to lexical aspect, Levin and Rappaport Hovav (1992), Demonte (2011) and Souto (2014) propose that path verbs denote achievements, that is, they describe events that are punctual. Let’s see, then, how they behave with lexical aspect tests. Achievement verbs cannot be combined with the expression *parar de* ‘to stop’ or when combined with this, they acquire activity reading (CANÇADO; AMARAL, 2016):

- (26) A criança parou de entrar no quarto da mãe.
 ‘The child stopped coming into her mother’s room.’

¹⁷ It is interesting to note that some verbs can occur with the complete specification of path, presenting a prepositional phrase that denotes the Source and another that corresponds to the Goal: *o menino desceu do quinto até o primeiro andar* ‘the boy went down from the fifth until the first floor’. However, we propose that one of these prepositional phrases functions as a verbal adjunct, since the verb meaning is already satisfied by the presence of only one of them: *o menino desceu do quinto andar* ‘the boy went down from the fifth floor’/ *o menino desceu até o primeiro andar* ‘the boy went down until the first floor’.

¹⁸ The verb *entrar* ‘to get in’ takes a prepositional phrase headed by the preposition *em* ‘in’ to satisfy its meaning. Although it typically has a locative reading (*Belo Horizonte fica em Minas Gerais* ‘Belo Horizonte is in Minas Gerais’), it conveys Goal when combined with motion verbs that encode displacement, such as *entrar* ‘to get in’ and *chegar* ‘to arrive’, in the sentence *a menina chegou na festa* ‘the girl arrived at party’ (BEAVERS; LEVIN; THAM, 2010).

- (27) ?O menino parou de sair da sala.
 ?'The boy stopped leaving the room.'

Sentence (26) is interpretable only if we read it as an activity, that is, if we imagine that the child had the habit of entering the mother's room and stopped doing it.

Some verbs of this class can present a noun phrase which encode path, such as in the sentence *o menino subiu o morro* 'the boy climbed the hill'. Demonte (2011) proposes that this noun phrase is classified as Incremental Theme (DOWTY, 1991), since its internal structure is directly related to that of the event. The top of the hill is reached gradually as the boy is performing the event of climbing it. Thus, in these cases, path verbs present the accomplishment derived aspect. It also occurs when these verbs are combined with preposition *até* 'until': *o menino subiu até o topo do morro* 'the boy climbed until the top of the hill'.

Regarding the semantic representation, Jackendoff (1990) proposes the following structure for the path verbs:

- (28) $v: [_{Event} GO ([X], [_{Path} TO ([_{Place} Y])])]$ (JACKENDOFF, 1990, p. 93).

According to the author, GO function expresses the displacement of an entity X by a path Y. However, the problem in this representation is that it does not express the verb root, that is, the semantic content that is lexicalized by it without its arguments.

Adopting Cançado and Amaral (2016) lexicalization proposal, we can see that path verbs, such as *correr* 'to run', lexicalize the realization of an event, since they derive a nominal phrase that encodes this semantic component:

- (29) A entrada da menina no quarto da mãe foi inesperada.
 'The girl's entrance into her mother's room was unexpected.'
- (30) A saída do menino da sala surpreendeu a todos.
 'The boy's exit from the room surprised everyone.'
- (31) A volta da moça para casa foi tranquila.
 'The girl's return home was quiet.'

We argue, according to Amaral (2013), that the root in the predicate decomposition structure of these verbs must be of events' ontological category: <EVENT>. Having defined the root that represents the semantic content lexicalized by path verbs, our next step is to establish the metapredicates that will compose the structure of recurrent meaning of the class. As we have seen, Jackendoff (1990) proposes a representation for path verbs using the GO function. However, since the root <EVENT> denotes an event in the world and GO primitive denotes motion along a path, the combination of these two elements does not have semantic correspondence, because, in the world, events are performed by an entity X and GO function does not convey this idea.

Therefore, we propose, based on Amaral (2013), that the metapredicate which combines with the root <EVENT> in path verbs is the primitive DO. The path meaning will be represented by the primitive LOC (WUNDERLICH, 2012; CANÇADO; AMARAL, 2016):

- (32) v: [[X DO <EVENT>] LOC Z]
 a. *sair* ‘to get out’: [[X DO <SAÍDA>] LOC Z]
 b. *entrar* ‘to get in’: [[X DO <ENTRADA>] LOC Z]
 c. *voltar* ‘to come back’: [[X DO <VOLTA >] LOC Z]

The brackets in the structure in (32) mark the predicates and their arguments. Thus, DO is a primitive that relates the variable X, which denotes an entity (animate or inanimate), to the root <EVENT>, which shows that the verbs of this class lexicalize an event. The substructure [X DO <EVENT>] forms a complex argument. The metapredicate LOC, as well as DO, also takes two arguments: the variable Z and the complex argument [X DO <EVENT>]. The variables X and Z represent, respectively, the Theme argument and the Path argument, which has its meaning specified as Source or Goal¹⁹, according to the preposition semantically selected by the verb.

Motion idea is derived from the combination of the root <EVENT> with LOC²⁰ primitive, unlike what happens with verbs such as *correr* ‘to run’, in which the idea of motion is idiosyncratic.

- (33) O João correu na esteira²¹.
 ‘João ran on the treadmill.’
 (34) O João chegou na festa.
 ‘Jon arrived at party.’

Sentence (33) does not convey the idea of motion by a path, although it is composed by a verb denoting motion and by a locative prepositional phrase. On the other hand, the sentence in (34), also composed by a motion verb and by a locative prepositional phrase, denotes the realization of motion by a path, which shows that the meaning of motion is not only at the root of the predicate decomposition structure, but in the combination of this root with the primitive LOC.

¹⁹ Unlike Cançado and Amaral (2016), who assume that LOC primitive corresponds to the locative preposition in verbs that take a prepositional phrase as an argument, we assume that the entire prepositional phrase is represented by the variable Z, whereas LOC has only the semantic function of expressing a relation of location/ path. We assume, therefore, that in predicate decomposition language, only the variables, not the primitives, correspond to phrases.

²⁰ Godoy (2012) already proposes that location verbs, such as *enjaular* ‘to cage’ and change of locative state verbs, such as *enterrar* ‘to bury’, have *motion* semantic property derived from its predicate decomposition structure.

²¹ The prepositional phrase in (33) is called “event locative” by Corrêa and Cançado (2006) since it is not an argument of the verb *correr* ‘to run’. On the other hand, the prepositional phrase in (34) is called “predicate locative” since it is an argument of the verb *chegar* ‘to arrive’. *Motion* semantic property is derived from predicate structure only in verbs that take a locative argument.

Seventeen BP verbs are in this class: *adentrar/ entrar* ‘to get in’, *atravessar* ‘to cross’, *avançar* ‘to go forward’, *chegar* ‘to arrive’, *descer* ‘to go down’, *embarcar* ‘to board’, *ir* ‘to go’, *partir* ‘to leave’, *recuar* ‘to back off’, *regressar/ retornar* ‘to return’, *sair* ‘to get out’, *subir* ‘to go up’, *vir* ‘to come’ and *voltar* ‘to come back’.²²

Lastly, we argue that the directional meaning of verbs such as *entrar* ‘to get in’ and *sair* ‘to get out’ is part of their idiosyncratic meaning since other verbs of this class such as *partir* ‘to leave’, *regressar/ retornar* ‘to return’ and *voltar* ‘to come back’ do not present an obvious directional meaning. Thus, we propose that the term ‘path verbs’ derives from the fact that all verbs of this class have an argument that denotes this semantic component and not from the fact some of them lexicalize a direction. Therefore, the nickname ‘path verbs’ represents better this class than the nomenclature ‘verbs of inherent directed motion’.

Caused event verbs

In this class, we have verbs that take two arguments and that can present a Path prepositional phrase as an adjunct. They also derive a nominal phrase that encode an event in the world, and this nominal phrase is the nominal passive since the verbal object becomes the name’s complement and the verbal Agent becomes an adjunct headed by the preposition *por* ‘by’.

- (35) a. O piloto decolou o avião.
 ‘The pilot took off the plane.’
 b. O piloto decolou o avião até um quilômetro do solo.
 ‘The pilot took off the plane up to one km from the ground.’
 c. A decolagem do avião pelo piloto
 ‘The airplane’s take off by the pilot’
- (36) a. O soldado hasteou a bandeira.
 ‘The soldier raised the flag.’
 b. O soldado hasteou a bandeira até o topo do mastro.
 ‘The soldier raised the flag to the top of the mast.’
 c. O hasteamento da bandeira pelo soldado
 ‘The raising of the flag by the soldier’
- (37) a. O atleta levantou a barra de ferro.
 ‘The athlete lifted the iron bar.’
 b. O atleta levantou a barra de ferro até os ombros.
 ‘The athlete lifted the iron bar up to his shoulders.’

²² Cançado, Amaral and Meirelles (in prep.) argue that other verbs that do not encode motion are also part of this class such as *divorciar* ‘to divorce’, *acreditar* ‘to believe’, *apegar* ‘to hold’, *concentrar* ‘to concentrate’, among others. All verbs of this class have a prepositional argument and denote the realization of an event by a path, even if it is more abstract.

- c. O levantamento da barra de ferro pelo atleta²³
'The lifting of the iron bar by the athlete'

According to Corrêa and Cançado (2006), the prepositional phrase that encodes path is a verbal argument. However, we argue that this phrase is an adjunct, since its presence is not necessary to satisfy the verb meaning, as we show in sentences (35a), (36a) and (37a).

Moreover, unlike the authors, who claim that verbs of this class denote achievements, we classify them as accomplishment verbs, since they are ambiguous when combined with the adverb *quase* 'almost':

- (38) O piloto quase decolou o avião.
'The pilot almost took off the plane.'
a. O que o piloto quase fez foi decolar o avião.
'What the pilot almost did was take off the plane.'
b. O que o piloto fez foi quase decolar o avião.
'What the pilot did was almost take off the plane.'

Morgan (1969) proposes that the adverb *almost* differentiates verbs that denote two subevents and thus present the lexical aspect of accomplishment from those that encode just one event, which can be an activity or an achievement. The sentence in (38a) means that the pilot thought about taking off the airplane, but did not do it while (38b) encode the meaning that the pilot even performing some procedures to take off the airplane, did not conclude the action, so the plane did not take off.

Cançado, Amaral and Meirelles ([2017]) argue that there are other verbs that do not denote motion, but behave like those of this class, since they denote accomplishments, have two arguments and derive a phrase that encodes an event (nominal passive):

- (39) a. O veterinário amputou a patinha do cão.
'The vet amputated the dog's paw.'
b. A amputação da patinha do cão pelo veterinário
'the amputation of the paw of the dog by the vet'
(40) a. O dono do frigorífico abateu o boi.
'The owner of the cold-storage room slaughtered the ox.'
b. O abate do boi pelo dono do frigorífico
'the slaughter of the ox by the owner of the cold-storage-room'

²³ It is interesting to mention that the verbs of this class exhibit an intransitive form: *o avião decolou* 'the plane took off', *a bandeira hasteou* 'the flag hoisted' and *o atleta levantou-se* 'the athlete got up'. These forms correspond, respectively, to what Amaral (2015) classifies as metonymic alternation, result constructions and middle alternation. For a detailed study on different semantic processes that underlie the transitive-intransitive alternation in BP, see Amaral's thesis (2015).

- (41) a. O bandido sequestrou a moça.
 ‘The bandit kidnapped the girl.’
 b. O sequestro da moça pelo bandido
 ‘the kidnapping of the girl by the bandit’

In a preliminary analysis, the authors list about 300 verbs that behave the way we showed in this section. This indicates that motion is an idiosyncratic property of some verbs of this class. It is this idiosyncratic property that allows verbs to accept the addition of a Path prepositional phrase as shown in sentences “b” in examples (35) to (37).

Thus, to propose the semantic structure of this class, we have the following information: the verbs take two arguments, denote accomplishments, derive nominal phrases (nominal passive), and motion is an idiosyncratic property of some verbs since all of them seem to describe events in which the external argument affects the internal one in some way.

Thus, based on Amaral’s (2013) lexical structure proposal for *escrever* ‘writing’ verbs, we propose the following semantic representation for the verbs that we analyze in this section:

- (42) v: [[X ACT] CAUSE [<EVENT> OF Y]]
 a. *hastear* ‘to raise’: [[X ACT] CAUSE [<HASTEAMENTO> OF Y]]
 b. *decolar* ‘to take off’: [[X ACT] CAUSE [<DECOLAGEM> OF Y]]
 c. *levantar* ‘to lift’: [[X ACT] CAUSE [<LEVANTAMENTO> OF Y]]

This representation evidences that verbs of this class take two arguments, represented by variables X and Y, denote accomplishments, which is evidenced by the presence of CAUSE primitive, and lexicalize an event in the world, denoted by the root <EVENT>. The OF primitive is a predicate that relates the variable Y to the root <EVENT> (AMARAL, 2013).

Six verbs that denote motion are part of this class: *hastear* ‘to raise’, *decolar* ‘to take off’, *aterrissar* ‘to land’, *levantar* ‘to lift’, *içar* ‘to hoist’ and *soerguer* ‘to uplift’.

Let us now turn to the description of the fourth class of BP motion verbs.

Caused motion verbs²⁴

This class includes verbs such as *lançar* ‘to throw’, *enviar* ‘to send’ and *extrair* ‘to extract’, which denote the triggering of motion along a path and which have three

²⁴ It is important to emphasize that what we mean by “caused motion verbs” differs from “caused motion construction” proposed by Goldberg (1995). The latter arises from the need to explain the causative and the motion meaning acquired by verbs that do not inherently possess them: *they laughed the poor guy out of the room* (GOLDBERG, 1995, p.152). In this paper, we call “caused motion verbs” events that are inherently causative (denote accomplishments) and which convey that an entity X triggers the realization of a motion event in which Y moves along a path Z.

arguments, one external (Agent), and two internal: the Theme, which is moved by a path, and a prepositional phrase, which denotes a path point (Source or Goal).

- (43) O menino lançou a boia na piscina²⁵/ para Pedro.
‘The boy threw the float in the pool/ to Pedro.’
- (44) Henrique enviou um presente para Miriam.
‘Henrique sent a gift to Miriam.’
- (45) A secretária extraiu o dinheiro do caixa.
‘The secretary extracted cash from the ATM.’

In English, the verbs we describe in this class participate in the so-called dative alternation (PINKER, 1989; GROPEN et al., 1989; LEVIN, 1993; BEAVERS, 2011). This is an alternation that happens when the same verb allows two forms of expression of its internal arguments, as shown below:

- (46) a. Rich sent/ threw the ball to Barry.
b. Rich sent/ threw Barry the ball.

(Adapted from Beavers, 2011, p. 2).

According to Beavers (2011), *enviar* ‘to send’ and *lançar* ‘to throw’ are ditransitive because they select a subject that triggers the event, a direct object, which receives the thematic role of Theme, and a third argument that represents Path. This Path argument can be performed as the first object (46b), so that we have a double object construct (BEAVERS, 2011) or as a prepositioned phrase (46a). It is still important to note that this alternation occurs only when the prepositional argument exhibits characteristics of Beneficiary, since its occurrence is not allowed when the prepositional phrase presents a strictly locative reading.

- (47) a. John sent the package to Bill/ to New York.
b. John sent Bill/ *New York the package.

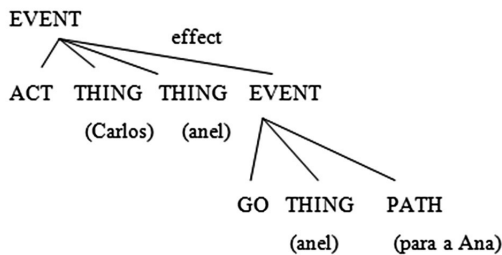
Beavers (2011) and Pinker (1989) provide the following structures for dative verbs:

- (48) v: [[x ACT] CAUSE [z GO TO y]]

(BEAVERS, 2011, p. 3).

²⁵ As we have proposed for verbs *entrar* ‘to get in’ and *chegar* ‘to arrive’, we argue that prepositional phrases headed by the preposition *em* ‘in’ acquire Goal meaning when combined with motion verbs that denote the triggering of a displacement by a path.

(49)



(Adaptado de PINKER, 1989, p. 211)

In BP, unlike English, the dative alternation is still quite rare²⁶, and in both languages verbs do not encode that the moving entity reaches an ending point.

(50) Henrique enviou um presente para Miriam, mas ela não recebeu.
'Henrique sent Miriam a gift, but she did not receive it.'

(51) O menino lançou a bola para o gol, mas ela não chegou até lá.
'The boy threw the ball into the goal, but it did not get there.'

It is interesting to note that the structures in (48) and (49) already make explicit the causative character of these verbs, which can be evidenced by the lexical aspect test with the adverb *quase* 'almost':

(52) O menino quase lançou a boia para a Maria.
'The boy almost threw the float to Maria.'

- a. O que o menino quase fez foi lançar a boia para a Maria.
'What the boy almost did was throw the float to Maria.'
- b. O que o menino fez foi quase lançar a boia para a Maria.
'What the boy did was almost throw the float to Maria.'

The sentence in (52) means that the boy thought of throwing the float to Maria, but did not do it (52a), or that he made the movement to throw the ball but did not complete it (52b). This shows that *lançar* 'to throw' is an accomplishment verb.

The morphosyntactic property that characterizes this verbs class is: all verbs derive two kinds of nominal phrases that encode event. It can be a nominal phrase composed by the Theme argument and by the Path argument or a nominal phrase that corresponds to nominal passive.

²⁶ Cançado and Amaral (2016) point out that dative alternation seems to be incorporating in some colloquial dialects in BP, but still with little productivity: *a menina deu um presente para o menino* 'the girl gave a gift to the boy' / *a menina deu o menino um presente* 'the girl gave the boy a gift'.

- (53) O menino lançou a boia na piscina.
 ‘The boy threw the float in the pool.’
 a. O lançamento da boia pelo menino
 ‘The launch of the float by the boy’
 b. O lançamento da boia na piscina
 ‘The launch of the float in the pool’
- (54) Henrique enviou um presente para Miriam.
 ‘Henrique sent a gift to Miriam.’
 a. O envio do presente pelo Henrique
 ‘the sending of the gift by Henrique’
 b. O envio do presente para Miriam
 ‘the sending of the gift to Miriam’
- (55) A secretária extraiu o dinheiro do caixa.
 ‘The secretary extracted cash from the ATM.’
 a. A extração do dinheiro pela secretária
 ‘the extraction of cash by the secretary’
 b. A extração do dinheiro do caixa
 ‘the extraction of the cash from the ATM’

Therefore, since these verbs have three arguments that denote accomplishments and lexicalize the realization of an event, we propose the following argument structure for the class:

- (56) *v*: [[X ACT] CAUSE [[<EVENT> OF Y] LOC Z]]
 a. *lançar* ‘to throw’: [[X ACT] CAUSE [[<LANÇAMENTO> OF Y] LOC Z]]
 b. *enviar* ‘to send’: [[X ACT] CAUSE [[<ENVIO> OF Y] LOC Z]]
 c. *extrair* ‘to extract’: [[X ACT] CAUSE [[<EXTRAÇÃO> OF Y] LOC Z]]

The variables X, Y and Z represent, respectively, the nominal phrase that triggers the action, the Theme nominal phrase and the Path prepositional phrase. The specification of the path point (Source or Goal) is made according to the preposition semantically selected by the verb. As we have proposed for path verbs, it is the combination of the root <EVENT> with the LOC predicate that conveys the idea of motion along a path.

This class includes 24 verbs: *apagar/ deletar* ‘to delete’, *arremessar/ lançar* ‘to throw’, *chutar* ‘to kick’, *coletar/ colher* ‘to collect’, *doar* ‘to donate’, *emprestar* ‘to lend/borrow’, *endereçar* ‘to address’, *entregar* ‘to deliver’, *enviar* ‘to send’, *exonerar* ‘to exonerate’, *exportar* ‘to export’, *expulsar* ‘to expel’, *extrair* ‘to extract’, *importar* ‘to import’, *remover* ‘to remove’, *retirar* ‘to withdraw’, *sacar* ‘to draw out’, *subtrair* ‘subtract’, *suprimir* ‘suppress’ *transferir* ‘to transfer’, *teletransportar* ‘to teleport’.

Finally, it is important to note that some verbs of this class, the so-called dative, accept a prepositional phrase that can be considered Beneficiary of the action and, therefore, can be replaced by the oblique pronoun *lhe* ‘him/her/them’:

- (57) a. Henrique enviou um presente para Miriam.
 ‘Henrique sent a gift to Miriam.’
 b. Henrique enviou-lhe um presente.
 ‘Henrique sent her a gift.’
- (58) a. A secretária extraiu o dinheiro do caixa.
 ‘The secretary extracted cash from the ATM.’
 b. ?A secretária extraiu-lhe o dinheiro.
 ‘?The secretary extracted it cash.’

However, although some verbs of this class have a Beneficiary indirect object, and then present a dative reading, it is not relevant for their division into classes, since all verbs lexicalize the realization of an event. We propose, then, that this is an idiosyncratic property of some verbs, which will be relevant only for the substitution of the Beneficiary prepositional phrase by the pronoun *lhe* ‘him/her/them’.

Let us now turn to the description of verbs known in the literature as manner of motion verbs.

Manner of motion verbs

In this class, we describe verbs such as *balançar* ‘to swing’, *girar* ‘to spin’ and *rodopiar* ‘to twirl’, which are considered unaccusative verbs that encode activities and denote the way in which motion occurs (LEVIN; RAPPAPORT HOVAV, 1992).

In BP, the activity aspect can be evidenced through the imperfective paradox test, since verbs that denote activities entail the action’s realization in progressive tense:

- (60) a. O menino estava girando o pião.
 ‘The boy was spinning the top.’
 b. † O menino girou pião.
 ‘The boy spinned the top.’

However, these verbs are not unaccusative in BP since they do not fit the typical unaccusativity tests. They do not form adjectival participle with their internal argument, do not accept the postposition of their arguments and accept a cognate/ hyponym object:

- (61) a. O pião girou.
 ‘The top spinned.’
 a. ? O pião girado
 ‘?The spinned top’
 b. ?Girou o pião
 ‘?Spinned the top’

- c. O pião girou um giro perfeito.
[the top spun a spin perfect]
'The spinning top turned a perfect spin.'

As we can see in (61a), verbs of this class exhibit an intransitive form, which, according to Amaral (2015) and unlike Levin and Rappaport Hovav (1992), Levin (1993) and Haspelmath (1993), differs from inchoative alternation since this one is exclusive of change of state verbs.

- (62) a. O vento balançou a rede.
'The wind swung the hammock.'
- b. A rede balançou.
'The hammock swung'
- c. *A rede tornou-se balançada.
'*The hammock became swung.'

(Adapted from AMARAL, 2015, p. 111 e 112).

Unlike change of state verbs, manner of motion verbs do not entail *become state* (PARSONS, 1990).

Amaral (2015) further argues that manner of motion verbs impose a restriction on the argument of its intransitive form: it must denote an entity capable of moving on its own or capable of "moving spontaneously through natural events" (AMARAL, 2015, p. 115).

- (63) a. O vento balançou o galho da árvore/ o balanço.
'The wind swung the tree branch/ the swing.'
- b. O galho da árvore/ o balanço balançou (com o vento)
'The tree branch swung/ the swing swung because of the wind.'
- c. ?A parede balançou (com o vento).
'?The wall swung because of the wind.'

- (64) a. O menino quebrou o galho da árvore/ o balanço/ a parede.
 ‘The boy broke the tree branch/ the swing/ the wall.’
 b. O galho da árvore/ o balanço/ a parede (se) quebrou.
 ‘The tree branch/ the swing/ the wall broke.’

In the sentences (63), the noun phrases *o galho da árvore* ‘the tree branch’ and *o balanço* ‘the swing’ can occur in the intransitive form with the verb *balançar* ‘to swing’, because they can be moved by the wind, while the same is not true for the noun phrase *a parede* ‘the wall’. This makes it unable to be the subject in the intransitive form. On the other hand, in the case of the change of state verb *quebrar* ‘to break’, all the nominal phrases, *o galho da árvore* ‘the tree branch’, *o balanço* ‘the swing’ and *a parede* ‘the wall’ can be subjects of its intransitive form. This shows that change of state verbs have only a lexical constrain (they must encode *become state* and present the substructure [BECOME Y <STATE>] – (CANÇADO; GODOY; AMARAL, 2013)) to occur in the causative-inchoative alternation, so that the semantic type of its argument does not matter for its participation in this alternation (AMARAL, 2015).

Thus, Amaral (2015) proposes that BP manner of motion verbs are basically transitive and participate in the middle transitive-intransitive alternation, since these verbs entail the motion of their internal argument in transitive form and only make the intransitive one if the subject noun phrase denotes an entity capable of moving on its own.

- (64) a. O menino girou o pião.
 ‘The boy spun the top.’
 b. O pião girou.
 ‘The top spun.’
 (65) a. O vento balançou a cortina.
 ‘The wind shook the curtain.’
 b. A cortina balançou.
 ‘The curtain swung.’
 (66) a. O mestre-sala rodopiou a porta bandeira.
 ‘The master of ceremonies twirled the flag bearer.’
 b. A porta bandeira rodopiou.
 ‘The flag bearer twirled.’

Regarding the semantic representation, we have already shown that Jackendoff (1990) proposes the following structure for English manner of motion verbs:

- (67) v: [Event MOVE ([Thing])]

(JACKENDOFF, 1990, p. 99).

However, as we showed, in BP these verbs, according to Amaral's (2015) analysis, are basically transitive. In this way, the author reformulates the Jackendoff's (1990) primitive MOVE so that it becomes a primitive that takes two arguments²⁷:

(68) v: [X MOVE _{<MANNER>} Y] (AMARAL, 2015, p. 114).

Nevertheless, considering the proposal of Cançado and Amaral (2016) that we can evidence the semantic component lexicalized by the verb through phrases correlated to the verb meaning, we see that the verbs of this class do not lexicalize manner of motion since they accept cognate phrases that denote an event.

- (69) O menino girou o pião com um giro perfeito.
 [the boy spun the top with a spin perfect]
 'The boy turned the top with a perfect turn.'
- (70) A mãe balançou o carrinho do bebê com um balanço suave.
 [the mother swung the baby's stroller with a swing gentle]
 'The mother rocked the baby's stroller with a gentle swing.'
- (71) O mestre-sala rodopiou a porta bandeira com um rodopio perfeito.
 [the master of ceremonies twirled the flag carrier with a twirl perfect]
 'The master of ceremonies swirled the flag carrier with a perfect whirl.'

Moreover, it seems *ad hoc* to propose a specific motion predicate (MOVE) to represent the meaning of these verbs, since in the other classes this semantic property (motion) is part of the verb idiosyncratic meaning (classes of *correr* 'to run' and of *hastear* 'to raise') or is derived from the combination of the root and the LOC primitive (classes of *sair* 'to get out' and of *lançar* 'to throw').

Thus, based on the proposal of Nascimento (2015) for verbs such as *beijar* 'to kiss'²⁸, we propose the following representation for the verbs of the class we describe in this section:

- (72) v: [X AFFECT _{<EVENT>} Y]
 a. *balançar* 'to swing': [X AFFECT _{<BALANÇO>} Y]
 b. *girar* 'to spin': [X AFFECT _{<GIRO>} Y]
 c. *rodopiar* 'to twirl': [X AFFECT _{<RODOPIO>} Y]

The entities X and Y represent, respectively, the external and internal arguments of the verbs and the root <EVENT> evidences the fact that these verbs lexicalize the affectionation of an entity Y through an event.

²⁷ Menuzzi and Ribeiro (2011) also propose a representation with the primitive MOVE for BP manner of motion verbs.

²⁸ According to Nascimento (2015), verbs such as *beijar* 'to kiss' are contact verbs that have a Beneficiary internal argument.

Therefore, we propose that verbs such as *balançar* ‘to swing’, *rodopiar* ‘to twirl’, *girar* ‘to spin’, *beijar* ‘to kiss’, *abraçar* ‘to hug’, *acariciar* ‘to caress’, among others, form a single verb class, since they denote activities and accept cognate prepositional phrases that denote an event:

- (73) a. A mãe balançou o carrinho do bebê.
 ‘The mother swung the baby’s stroller.’
 b. A mãe balançou o carrinho do bebê com um balanço suave.
 [the mother swung the baby’s stroller with a swing gentle]
 ‘The mother rocked the baby’s stroller with a gentle swing.’
- (74) a. O menino beijou a menina.
 ‘The boy kissed the girl.’
 b. O menino beijou a menina com um beijo molhado.
 [the boy kissed the girl with a kiss wet]
 ‘The boy kissed the girl with a wet kiss.’

Thus, *motion* semantic property is part of verbs’ idiosyncratic meaning, and it is this idiosyncratic property that allows verb participation in middle alternation.

This class includes 16 verbs that encode motion: *balançar* ‘to swing’, *brandir* ‘to brandy’, *bulir* ‘to do a kind of motion’, *chacoalhar* ‘to shake’, *fremir* ‘a kind of motion’, *girar* ‘to spin’, *menear* ‘to do a kind of motion’, *movimentar* ‘to move’, *picar/ quicar* ‘to bounce the ball’, *remexer* ‘to rummage’, *rodar* ‘to rotate’, *rodopiar* ‘to twirl’, *rolar* ‘to roll’, *sacolejar* ‘to do a kind of shaking or swinging’, *sacudir* ‘to flip’. Besides these verbs, there are more 16 other verbs, pointed by Nascimento (2015), which do not entail motion, such as *beijar* ‘to kiss’, *abraçar* ‘to hug’, *afagar* ‘to fondle’, among others.

Having described the five classes by which BP motion verbs are divided, we conclude that it is not necessary to propose specific motion primitives to represent this semantic property in lexical structures of the BP verb classes. Our proposal is contrary to Jackendoff (1990), Menuzzi and Ribeiro (2011), Godoy (2012) and Amaral (2015) ones, once these authors propose specific motion primitive such as MOVE and GO. In BP, motion is an idiosyncratic property of some verbs such as those of the *correr* ‘to run’ class, *hastear* ‘to raise’ class and *balançar* ‘to swing’ class. On the other hand, this property is derived from combination of the verb root with the primitive LOC in verbs of the *sair* ‘to get out’ class and *lançar* ‘to throw’ class.

In addition, we show that the so-called “motion verbs” of the BP lexicalize an event, contrary to what is proposed by other studies which attest that motion verbs are divided between verbs that lexicalize only path and verbs that lexicalize manner of motion. We corroborate, therefore, the proposal of Amaral and Caçado (2015) that the Rappaport Hovav and Levin’s (2010) MANNER / RESULT complementarity hypothesis is not applicable to BP verbs, since they lexicalize semantic components different from manner and result, such as the root <EVENT>.

The chart of verb classes we described in this paper can be seen below:

List 1 – BP “motion verbs” classes

Verb classes	Verbs	Argumental Structure
event realization verbs	<i>correr</i> ‘to run’, <i>pular</i> ‘to jump’, <i>nadar</i> ‘to swim’	[X DO <EVENT>]
path verbs	<i>chegar</i> ‘to arrive’, <i>entrar</i> ‘to get in’, <i>sair</i> ‘to get out’	[[X DO <EVENT>] LOC Z]
caused event verbs	<i>decolar</i> ‘to take off’, <i>hastear</i> ‘to raise’, <i>levantar</i> ‘to lift’	[[X ACT] CAUSE [<EVENT> OF Y]]
caused motion verbs	<i>lançar</i> ‘to throw’, <i>enviar</i> ‘to send’, <i>extrair</i> ‘to extract’	[[X ACT] CAUSE [[<EVENT> OF Y] LOC Z]]
manner of motion verbs	<i>balançar</i> ‘to swing’, <i>girar</i> ‘to spin’, <i>rodopiar</i> ‘to twirl’	[X AFFECT <EVENT> Y]

Source: Author’s elaboration.

Final considerations

In this paper, we show that *motion* semantic property is not something easy to define, since verbs of different types can denote situations that encode some kind of motion. However, there is a group of verbs that is consensually called “motion verbs” in the linguistic literature, such as *run* verbs, *get out* verbs, *raise* verbs, *throw* verbs and *swing* verbs. In this research, we analyze the syntactic-semantic behavior of these verbs in order to determine which semantic component is lexicalized by them and how *motion* semantic property is represented in the argument structure of BP verb classes.

In order to do so, we briefly reviewed the studies on motion verbs in the literature and show that, contrary to what is proposed, BP motion verbs lexicalize the realization of an event and not only path or manner of motion. We corroborate, therefore, the proposal of Amaral and Cançado (2015) that the Rappaport Hovav and Levin’s (2010) MANNER / RESULT complementarity hypothesis is not applicable to BP verbs, since they lexicalize semantic components different from manner and result, such as the root <EVENT>.

In addition, we argue that it is not necessary to propose specific motion primitives such as MOVE and GO (JACKENDOFF, 1990), since this semantic property is derived from predicate decomposition structure of the verbs (*sair* ‘to get out’ verbs and *lançar* ‘to throw’ verbs), or is part of its idiosyncratic meaning (*correr* ‘to run’ verbs, *hastear* ‘to raise’ verbs and *balançar* ‘to swing’ verbs).

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- *RESUMO: Este artigo propõe-se a (i) descrever os verbos de movimento do português brasileiro em relação às suas propriedades semânticas e sintáticas, (ii) analisar o padrão de lexicalização desses verbos, e (iii) determinar como o movimento é representado na estrutura argumental dos verbos através da metalinguagem de decomposição de predicados primitivos. Propomos que os verbos de movimento do português brasileiro lexicalizam, todos, a realização de um evento e não a dicotomia trajetória versus modo do movimento, como proposto na literatura linguística. Contudo, embora exibam o mesmo padrão de lexicalização, eles não podem ser analisados como pertencentes a uma única classe verbal, pois diferem quanto ao número e tipo de argumentos que pedem para ter seu sentido saturado, ao seu aspecto lexical e ao seu comportamento em relação à inacusatividade. Assim, os verbos de movimento do português brasileiro distribuem-se por pelo menos cinco classes distintas, de modo que cada classe apresenta uma representação semântica própria.*
- *PALAVRAS-CHAVE: Lexicalização. Decomposição de predicados primitivos. Classes verbais. Verbos de movimento.*

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