

When STAY and BECOME are the same verb: the case of *ficar* *

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Abstract

In this paper I investigate the properties of the copula-like verb *ficar* in Brazilian Portuguese using Pustejovsky's generative lexicon (GL). The verb *ficar* can be translated as *stay* or *become*, depending on its complement. With locatives, only the STAY reading is possible. With adjectival complements, both BECOME and STAY readings are possible. I propose that *ficar* takes an eventuality as its complement and I argue that there is no need to create multiple lexical entries for it, since the readings are the result of the possible combinations between the transition denoted by *ficar* and the properties of the stative complements.

I argue that the BECOME reading with adjectival predicates is the result of combining part of the qualia of the adjectival predicate with the TRANSITION of *ficar*. The STAY readings of *ficar*+adjective are the result of shadowing the transition. In the case of *ficar*+locative, the BECOME reading is unavailable. Departing from the hypothesis that subevents have to be linked to arguments in order to be able to be modified by certain types of modifiers or be selected by certain types of heads, I argue that the transition, in the case of locative complements, is not associated to any argument because nothing in the qualia of the locative complement is compatible with a transition, given that there is not motion component in either *ficar* or the locative. Unlinked to any argument, the TRANSITION can only be part of the 'constant' meaning of the verb, which explains why it is not available for modification.

Introduction

This paper discusses the copula-like verb *ficar* in Brazilian Portuguese, which seems ambiguous between a STAY reading and a BECOME reading, as illustrated below¹.

- (1) a. A família *ficou* no Brasil.
The family *ficar*-PPERF in Brazil
'The family remained/stayed in Brazil.'
- b. A cidade *ficou* maior.
The city *ficar*-PPERF bigger
'The city became bigger.'

In (1a) the verb is translated as 'stay/remain' and in (1b) the verb is translated as 'become'.² Assuming two basic meanings STAY/REMAIN and BECOME, the standard treatment for dealing

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¹ I will use capital letters for the basic meanings and basic functions.

² *Ficar* also has a reading that can be translated as 'keep'. This reading arises when the complement is a gerundive form. I will not discuss this reading in this paper but I will assume that it can be derived as the STAY reading. Following Jackendoff 1996, I assume that *stay*, *remain* and *keep* are derived from the same basic function STAY, which can in turn be decomposed as function BE that relates [Thing] and [Space]. What is

with this apparent case of lexical polysemy is by recording each particular grammatical usage of a verb in a separate lexical entry. The relation between STAY/REMAIN and BECOME can be encoded via meaning postulates that exploit the fact that BECOME and REMAIN are taken to be duals, i.e., REMAIN P is equivalent to NOT BECOME NOT P. (See Löbner 1987, Steinitz 1999b)

However, to create two (or more) lexical entries associated with these two basic functions for *ficar* not only misses speakers' intuitions that *ficar* is not ambiguous at all, but also misses the fact that most of what is necessary to account for the behaviour of *ficar* in Brazilian Portuguese is given by the type of complement. If the complement is a locative (adverbial or prepositional), only a STAY reading is possible. With comparatives that involve change in time, only the BECOME reading seems to be available.

Of course we can encode the selectional restrictions with each lexical entry, but then we have to say that the subcategorization properties of the two or more senses can overlap, as is the case in (2), where both readings seem to be possible, and it is the context that will define which reading is the appropriate one.

- (2) A Maria ficou com fome.
The Maria FICAR -3SG.PAST.PERF with hunger
- a. 'Maria became hungry.'
 - b. 'Maria remained hungry.'
- (3) a. Não era nenhuma surpresa, depois de todo aquele exercício.
It was no wonder she was hungry after all that exercise.
- b. Isso era surpreendente, depois de tudo o que ela tinha comido.
This was surprising, after all she had eaten.

Sentence (2) can be roughly translated as (2a) or (2b). Both continuations, (3a) and (3b), are felicitous and compatible with the meaning in (2a) and (2b), respectively.³ Again meaning postulates could be used to establish the relation between the two senses (see Hovav and Levin 1998).

In this paper I argue that in all these cases we have one verb with one general argument structure and one event structure. We will see that the translations are partially misleading because what changes are the properties of the complement and therefore its possible interactions with *ficar*. In other words, *ficar* is a light verb that gets the best possible sense given the complement it appears with.

This is in the spirit of much of Pustejovsky's generative lexicon proposal (Pustejovsky 1995). The idea of the generative lexicon is that rather than positing a new entry for a verb every time a new environment/sense pair is discovered, one should "spread the semantic load" more evenly throughout the elements in composition. Such an approach partially shifts the load of the explanation for cases like *ficar*+locatives from the verb itself to the locatives. The question is then why locatives disallow a BECOME reading (in German, English and Swedish as well) and why adjectival predicates (whether APs or PPs, as illustrated above), allow both interpretations of *ficar*. I will argue that the nature of the complement is crucial to determine the possible interpretations.

Following Jackendoff (1996), I will assume that BECOME and STAY are not primitives but are rather derived from BE. The intuition I would like to pursue is that *ficar* means the state of BE X after some change Y. *Ficar*+ complement is then in a sense a complex event composed by two subevents where Y precedes X. Schematically we would have the following:

characteristic of the STAY function is that the situation progresses in time but there is not change in either the Thing or the Location. So there is no motion component involved in these verbs.

³ Adjectives in general behave as in (2). I will call this case the case of *ficar*+*adjective* for lack of a better term for this complex that involves APs and non-locative and non-directional PPs and most participles.

- (4) *ficar*+ complement
- $\begin{array}{c} \diagup \quad \diagdown \\ Y \quad X \end{array}$

Y can be the subevent that brings about the subevent X, in which case we get a BECOME reading. If Y cannot be interpreted as the event that brings about X (and that depends on the possible interpretations of the *ficar* complex), subevent Y remains just a necessary or a possible pre-condition and subevent X is all that is asserted. In this case the translation is 'remain' or 'stay'.

The intuition I am trying to capture is exemplified in (5). Compare (5a) and (5b), in view of the following context: politician A is 'modern' and has the brilliant idea of removing the university from the downtown area so that a convention center and various hotels can be built. Politician B is not 'modern' and is opposed to this idea. He can say (5a) but not (5b).

- (5) a. A universidade fica aqui.
The university stays here.
- b. A universidade é aqui.
The university is here.

Example (5a) is an acceptable statement given the context. (5b) is unacceptable in such a context. (5b) just asserts that the university is here, which given the context is basically a non-sequitur, since both politicians know where the university is. (5a) illustrates what I consider to be part of the meaning of STAY, namely that for its use to be felicitous, the situation minimally could have been different. In other words, a change in the described situation was a possibility.⁴

Such an analysis will explain the two basic uses of *ficar* and constitutes the core of the empirical coverage of this paper. In more general terms, I make an attempt to define under what conditions subevents can remain a possibility. I will argue that the constraints on realization of subevents will be related to the anchoring of subevents on directly or indirectly realized arguments. To be more concrete, I will argue that the fact that subevent Y can remain a possibility is related to the fact that there are no roles that can be associated with this subevent. *Ficar* has only one obligatory argument and this argument is always mapped onto the subevent X.

In the first section I present the assumptions about the lexical representations I am adopting; section 2 presents the basic descriptive facts and a rough proposal for *ficar*. In section 3 I discuss how locatives disallow BECOME readings; and in section 4 I discuss the behavior of adjectives. Section 5 summarizes the main points and raises a few questions that should be addressed in further research.

1 Basic assumptions about lexical representations

Before we move to the basic description of the data, it is crucial to make clear some of my assumptions about the lexical representations, since they will drive both the description and the analysis.

There are many different approaches to the problem of lexical representations and the interface with syntax. In spite of their large variety, all theories share a number of properties. First, all recognize two aspects of verb meaning: a structural meaning and an idiosyncratic meaning. The structural meaning is the part that determines the semantic classes of verbs that are grammatically relevant. The idiosyncratic component of a verb meaning is called a 'constant' by Hovav and Levin 1998. The 'constant' defines the selection properties. Moreover, most theories assume more or less explicitly that the 'constant' determines the number of participants in an event and establishes the differences between verbs of the same class. Finally, most theories assume that the structural meaning has different components.

⁴ The other reading of (5b) indicates that the speaker has changed position and now can say that the house is here. I will not deal with this reading in this paper, although I believe that it is an extension of the first reading.

Precedence is not the only possible order: simultaneity ('exhaustive overlap part of', defined as (9)) and also 'exhaustive ordered overlap' are other possibilities (the verb *accompany*, for example, illustrates the simultaneity relation). The latter defines the case where an event contains two subevents e_1 and e_2 where e_1 starts before e_2 . The definition is given in (10).⁷

- (9) a. $[e_3 e_1 o_{\infty} e_2] =_{def} o_{\infty} (\{e_1, e_2\}, e_3)$
 b. $\forall e_1, e_2, e_3 [o_{\infty} (\{e_1, e_2\}, e_3) \leftrightarrow e_1 \leq e_3 \wedge e_2 \leq e_3 \wedge e_1 < e_2 \subseteq e_1 \wedge \exists e [\subseteq e \wedge e \subseteq e \wedge e = 1] \wedge \forall e [e \leq e_3 \rightarrow e = e_1 / e = e_2]]]$
- (10) a. $[e_3 e_1 < o_{\infty} e_2] =_{def} < o_{\infty} (\{e_1, e_2\}, e_3)$
 b. $\forall e_1, e_2, e_3 [< o_{\infty} (\{e_1, e_2\}, e_3) \leftrightarrow e_1 \leq e_3 \wedge e_2 \leq e_3 \wedge e_1 o e_2 \wedge init(e_1) < init(e_2) \wedge end(e_1) = end(e_2) \wedge \forall e [e \leq e_3 \rightarrow e = e_1 / e = e_2]]]$

The *, in the tuple above, indicates which of the subevents is more prominent and contributes to the focus of the interpretation. The * has also another function, which is to filter out what gets obligatorily mapped into the syntax. If some subevent is not the head, it gets 'shadowed'. The arguments involved in the 'shadowed' subevent are not obligatorily realized in the syntax and that may result in an interpretation with quantificational closure over the shadowed argument or on its realization as an adjunct. This means that to the event structure of *kill*, above, we need to add that e_1 is the head.

- (11) *kill*
 EVENTSTR = $E_1 = e_1$: process
 $E_2 = e_2$: state
 RESTR⁸ = <
 HEAD = e_1

The headedness is not always indicated in the lexical entry. It may be left underspecified and the headedness will depend on the complements. However, in the syntax, the head needs to be specified, otherwise the structure is ill-formed. Because events have at most two subevents, headless event structures admit of two possible interpretations, either e_1 will be the head or e_2 will be the head.

In addition to the argument structure and the event structure, Pustejovsky assumes yet a third level, the *Qualia Structure*. The qualia structure specifies certain aspects of the word meaning: the relation between an object and its parts (the CONSTITUTIVE role); the properties that distinguish it within a larger domain⁹ (FORMAL role), the purpose and function (the TELIC role); and the factors involved in its bringing about (the AGENTIVE role). Even if the characterization of these roles is still far from optimal and more work on it is necessary, this independent subcomponent allows parts of the meaning of a word to combine with parts of the meaning of another word in a predictable way, creating larger structures. This decomposition into roles has two consequences: (i) internally, the meaning of a word is not rigidly divided into 'constant' and structural meaning; (ii) externally, portions of a word identified by the different roles in the Qualia can combine with portions of the meaning of another word, given strict rules of combination. As we will see, it is this component that will be crucial in the analysis of *ficar*, since what we are trying to establish is how complements can partially determine the meaning of a head.

The Qualia Structure specifies the relation between arguments and subevents via the qualia roles, as illustrated below for the verb *kill*.

⁷ *Init* is a function over events returning the initial part of the event, and *end* is a function returning the final part of the event.

⁸ RESTR stands for ordering restrictions on the subevents.

⁹ Intuitively, the FORMAL role captures the state of affairs that exists, given a particular predicate.

- (12) *kill*
 ARGSTR = ARG1 = 1 ind
 ARG2 = 2 FORMAL = physical object
 animate-individual
 FORMAL = physical object
 EVENTSTR = E1 = e1:process
 E2 = e2: state
 RESTRIC = <
 HEAD = e1
 QUALIA = cause-lcp¹⁰
 FORMAL = dead (e2, 2)
 AGENTIVE = kill-act (e1, 1, 2)

The verb *kill* has two obligatory arguments and a complex event structure composed by two subevents related by precedence. The head is defined as e1. The qualia has information on two roles: the FORMAL role, which is what distinguishes *kill* from other causatives and, in this case, is associated with the state (e2) of being dead. The AGENTIVE role is related to what brings about a particular state, namely the *kill-act* and establishes a relation between the two obligatory arguments and e1. A cause relation links the two arguments.

It should be noted that since there is more than one qualia role in the representation above, individual qualia compete for projection in the syntax and headedness will act as a filter to constrain the set of projectable qualia. In the example above, headedness will determine that the argument associated with the second subevent e2 cannot be expressed, since the qualia for the headed event expresses the template associated with that relation, as illustrated in (13):

- (13)
-
- ```

 graph TD
 e0[e0] --- e1[e*1]
 e0 --- e2[e2]
 e1 --- t1["kill-act (e1,x,y)"]
 e2 --- t2["dead (e2,y)"]
 t1 --- r1["(x: SUBJ; y: OBJ)"]
 t2 --- r2["(y: SUBJ)"]

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Subevents must cohere in some way. One way to insure this is to assume that the lexical item has to be predicated of the same individual over at least two consecutive subevents. In the example above y cooccurs in both e1 and e2.

In addition to the qualia structure, mechanisms of Coercion and Co-composition can also operate to derive different senses. Coercion is a semantic operation that converts an argument to the type which is expected by a function, where it would otherwise result in a type error. Coercion is necessary to explain how we understand *John wants to know the time* as something like 'John wants to know what the time is, i.e., we coerce an NP into a question; or in *John began the book*, we understand it to mean that either 'John began reading the book' or 'John began writing the book'.

Co-composition are transformations that make use of semantically underspecified forms. Co-composition makes use of semantic information of both functor and argument in a phrase to create senses that are not listed in the lexicon. The result of co-composition of a verb with its argument is a semantics that reflects aspects of both constituents.

One example of a type of co-composition given by Pustejovsky is the case of the verb *bake*.

- (14) a. John baked the potato.  
 b. John baked the cake.

<sup>10</sup> Simply put, the lcp is a type constructor. It allows two types to combine to become a complex type. (See Pustejovsky 1995 for details.)

The verb *bake* has two meanings, a change of state sense and a creation sense. Most theories would have two lexical entries for *bake*, given the different senses. In order to capture the logical polysemy, Pustejovsky proposes that the complements carry information which act on the governing verb, essentially taking the verb as argument and shifting its event type. To be more precise, first the governing verb *bake* applies to its complement. Secondly a type of feature unification occurs, licensed by the identity of qualia values for the AGENTIVE role in the verb and its arguments (whoever bakes a cake, creates a cake). The composition of qualia structures results in a derived sense of the verb, where the verbal and complement AGENTIVE roles match, and the complement FORMAL quale becomes the FORMAL role for the entire VP. This can be done via functional application with qualia unification.

The formal definition is given in (15):

- (15) Function Application with Qualia Unification (from Pustejovsky 1995:124)

For two expressions,  $\alpha$ , of type  $\langle a, b \rangle$ , and  $\beta$  of type  $a$ , with qualia structures  $QS_{\alpha}$  and  $QS_{\beta}$ , respectively, then if there is a quale value shared by  $\alpha$  and  $\beta$ ,  $[QS_{\alpha} \dots [Q_i = \gamma]]$  and  $[QS_{\beta} \dots [Q_i = \gamma]]$ , then we can define the qualia unification of  $QS_{\alpha}$  and  $QS_{\beta}$ ,  $QS_{\alpha} \cap QS_{\beta}$ , as the unique greatest lower bound of these two qualia structures. Further,  $\alpha(\beta)$  is of type  $b$  with  $QS_{\alpha(\beta)} = QS_{\alpha} \cap QS_{\beta}$ .

A version of co-composition will become crucial below for the analysis of *ficar*, since the senses *ficar* can take are dependent on the predicates it takes as complements.

## 2 Basic descriptive facts

In this section I will describe the basic properties of *ficar*. First, it should be noted that *ficar* does not exhibit any gap in its morphological paradigm. It inflects for all tenses and all persons and it is not used as an auxiliary verb. Although it is not very easy in Portuguese to find diagnostics for clearly distinguishing auxiliary-like and copula-like verbs from lexical verbs (all verbs inflect and raise out of the VP), I will give one piece of evidence that shows that *ficar* sides with eventive verbs rather than with the pure copula *ser* and its close associate *estar*. Then I present evidence from subcategorization that suggests that *ficar* is very much a copula-like verb, since in most cases it is unacceptable with DP arguments. This hybrid behaviour of *ficar* is what I would consider typical of light verbs and evidence showing that *ficar* is not just a tense-aspect carrier.

### 2.1 *Ficar* is unlike copula verbs

Portuguese has a construction akin to what Bühring (1997) calls 'residual topics', where verbs or verbs and complements are topicalized in the infinitive form.<sup>11</sup> In this construction we find a sharp distinction between main regular verbs like *comer* 'eat' and copula-like verbs such as *ser* and *estar*.

Consider the question in (16) and two possible 'residual topic' answers. (16a,b) have a meaning that could be more or less paraphrased as 'if that is eating (a sandwich), then we can say he ate one'. In (16a) the whole predicate is topicalized and in (16b) just the verb is topicalized.

<sup>11</sup> For an analysis of these constructions see Schmitt (in progress).

- (16) O Pedro comeu um sanduíche?  
Did Peter eat a sandwich?  
a. Comer um sanduíche, ele comeu.  
To eat a sandwiche, he ate  
b. Comer, ele comeu um sanduíche.  
To eat, he ate a sandwich

When we try to do the same with the copula constructions with both *ser* 'be' and *estar* 'be', we find that it is impossible to just topicalize the verb. We can topicalize the predicate after the copula (as in (17a)) but not the copula alone (17b). The intuition is that one cannot topicalize something that has basically no content.

- (17) O Pedro é/está infeliz?  
Is Pedro unhappy?  
a. Infeliz, ele é/está.  
Unhappy he is  
b. \*Ser/estar, ele é/está infeliz  
To be, he is unhappy.

*Ficar* patterns with main verbs and not with the copula verbs, as illustrated below. Regardless of whether *ficar* has the sense of BECOME or STAY, the verb can appear as a residual topic on its own, just like the main verb *comer* 'eat' in (16), as illustrated in (18) and (19).

- (18) O Pedro fica contente quando a namorada cozinha para ele?  
Does Peter becomes happy when his girlfriend cooks for him?  
a. Contente, ele fica.  
Happy, he becomes  
b. Ficar, ele fica contente.  
To become, he becomes happy
- (19) O Pedro fica na sala sempre que vem te visitar?  
Does Pedro always stay in the living room when he comes to visit you?  
a. Na sala, ele fica.  
In the living room he stays  
b. Ficar, ele fica na sala.  
To stay, he stays in the living room.

## 2.2 *Ficar* is like copula verbs

In spite of the difference noted above, *ficar* is much like other copula and aspectual verbs. In fact the subcategorization properties of *ficar* are almost identical to the copula-like verb *estar* (see Schmitt 1992, 1996, 1999c).

Like *estar*, *ficar* can appear with PPs, APs (including past participles), gerundive VP complements and adverbial forms. (1) (in the introduction) illustrates locative PPs, (20a,b) below illustrate other types of PPs; (21a,b) illustrate *ficar* with adjectives and adjectival participles; (22a,b) illustrate *ficar* with gerundive forms, and (23a,b) illustrate *ficar* with adverbial forms:

- (20) a. A Maria fica em pânico.  
The Maria ficar-PRES in panic  
'Maria panicked.'  
'Maria stayed in panic.'
- b. A Maria fica com o Pedro.  
The Maria ficar-PRES with the Pedro  
'Maria stays with Pedro.'

- (21) a. Ela ficou viúva/ grávida.  
She ficar-PPERF widow/pregnant  
'She became/stayed a widow/ pregnant'
- b. Ele fica doente / furioso / irritado.  
He ficar-PRES sick/furious/irritate-PART  
'He becomes/stays sick / furious / irritated.'
- (22) a. Ele fica sendo o diretor.  
He ficar-PRES being the director  
'He becomes the director.'
- b. O Pedro ficou reclamando o tempo todo.  
The Pedro ficar-PERF complaining all the time  
'Pedro kept complaining all the time.'
- (23) a. Ela fica assim.  
She ficar-PRES this way  
'She stays/becomes this way.'
- b. Ela fica bem.  
She ficar-PRES well  
'She stays/becomes well.'

Nominals are very restricted with *ficar*. Definite DPs are not acceptable and indefinites are only acceptable if they are modified by evaluative adjectives (24b) or if preceded by a preposition *de* as illustrated in (24c), in which case no determiner is allowed:

- (24) a. Ele ficou um diretor tirânico.  
'He became a tyrannical director.'
- b. \*Ele ficou um diretor.  
'He became a diretor.'
- c. O Pedro ficou de presidente da companhia.  
The Peter became/stayed of president of the company  
'Peter became/remained president of the company.'

In previous work (Schmitt 1992, 1996) I have argued that *estar* takes an eventuality as an argument. Because the subcategorization properties are the same as the ones for *estar*, I will assume the same selectional properties for *ficar*.

A preliminary argument structure for *ficar* is given below (more has to be said about the sort of eventuality that is allowed):

- (25)      *ficar*  
ARGSTR =      ARG1 = 1 [stative eventuality]

Evidence that *ficar* selects an eventuality comes from the unacceptability of nominal small clauses that are either identificational (e.g. *The doctor is John*) or classificatory (e.g. *The whale is a mammal*). These small clauses (without an overt verb) are not eventualities and do not satisfy the selection restrictions of *ficar*. (See Schmitt 1999a for an analysis of these restrictions imposed on nominal small clauses by *estar* and *ficar*.)

### 2.3 Selection and the STAY/BECOME distinction

There is a clear correlation between the sense of *ficar* and the complement it appears with. With locatives (PP or adverbials) *ficar* is mostly translated as 'stay'. Examples are given below:

- (26) a. O apartamento fica em Berlin / ao lado do Correio.  
The apartment stays in Berlin/ to the side of the post office  
'The apartment is in Berlin/ on the side of the post office.'
- b. Os ricos ficam aqui, neste hotel.  
The rich stay here, in-this hotel  
'The rich stay here, in this hotel.'

When no complement appears after *ficar*, only the STAY reading is possible. The interpretation is STAY + relevant location to be inferred from the discourse, much like in English. I will assume that *ficar* has no intransitive uses and that a null locative element (interpreted deictically) is filling its complement position.

- (27) a. O Pedro ficou.  
The Pedro stayed.  
'Pedro stayed.'
- b. A Claudia fica.  
The Claudia stays  
'Claudia stays.'
- c. Fica!  
'Stay!'

As mentioned above, with adjectives, non-locative and non-directional PPs, in general, both readings tend to be acceptable. The same holds for participles, although there are some interesting restrictions. (See Schmitt 1999b for an analysis of participial forms with auxiliaries and copulas in Brazilian Portuguese).

With gerunds, the best translation is 'keep'. I will group these readings with the STAY readings, on the assumption that *keep* is related to the STAY basic function. With DPs preceded by the preposition *de* both BECOME and STAY readings are possible. With DPs with evaluative adjectives only a BECOME reading is possible.

In the remainder of the paper I will just deal with locative (PPs or adverbials) and adjectival complements (APs/PPs that denote properties), since they illustrate the range of possible readings. Gerundives and DP complements will be left out for another paper.

## 2.4 Aspectual tests

In this section I investigate the event structure of the *ficar* complex. Pustejovsky assumes three types of subevents: STATE, PROCESS, and TRANSITION. In order to determine whether the *ficar* complex has a complex subevent structure or not and what kind of subevents it is composed of, it is necessary to investigate its aspectual properties.

Here I assume that aspect is not a property of verbs per se, but the result of composition of nominal and verbal elements (see Krifka 1998; Verkuyl 1993; Steinitz 1999a). Moreover, following Schmitt 1996 and more recently Wagner 1998, I assume that there are at least three layers of aspect that are hierarchically organized one taking as input the output of the other. There is minimally a layer where information about the verb and its internal arguments are put together, which correspond roughly to the checking domain of the verb, a layer where subject information and certain adverbials and aspectual verbs are added, and a layer where tense operators that select for different types of eventualities are added, corresponding to the perfective/imperfective distinctions in Romance (de Swart 1998; Schmitt 1999b).

### 2.4.1 Time span adverbials: *for x time* and *in x time*

Various tests have been proposed to distinguish different classes of verbs in aspectual terms. The most reliable test for durativity, which distinguishes unbounded vs. bounded

eventualities, is the acceptability of *for x time* phrases and the oddness of *in x time* phrases, respectively. For example, in (28), (28a) is durative and (28b) is terminative.

- (28) a. Peter ate chocolate for hours / #in an hour  
 b. Peter ate two apples in an hour / #for an hour

In the *ficar* complex, what *for x time* and *in x time* adverbials are modifying and their acceptability are dependent on the predicate. Below I show that, while the *ficar*+locative complex can be modified by *for x time* adverbials, *ficar*+adjectival expressions allow *in x time* modification. Modification of *for x time* takes scope over the state in the *ficar*+adjective cases. The data will provide support for the hypothesis that the *ficar* complex is constituted by two subevents.

#### 2.4.1.1 *ficar*+locatives

When we combine *ficar* with locative PPs or adverbials, only *for x time* modification is acceptable. Modification by *in x time* is very marginal and only a STAY reading seems possible.

- (29) a. A Maria ficou em Berlin por três dias  
 The Maria stayed in Berlin for three days  
 b. ??A Maria ficou em Berlin em dois dias  
 The Maria stayed in Berlin in two days

Assuming *for x times* modifies homogeneous eventualities and *in x time* modifies quantized eventualities<sup>12</sup>, we can say that *ficar*+locative behaves like a homogeneous predicate and that coercion is not successful, since modification by *in x time* is not felicitous.

#### 2.4.1.2 *Ficar*+adjectives

The behaviour of time-span adverbs with *ficar* is more complicated. I will start by examining the conditions on modification by *for x time* and *in x time* with a more straightforward predicate like *open the door*.

- (30) a. Peter opened the door for two hours.  
 b. Peter opened the door in two hours.

(30a) has two readings. One reading forces an iteration of the predicate. Peter opened and closed the door for two hours. In the second reading, *for two hours* only takes scope over the result state of being opened. Peter opened the door such that it remained open for two hours.

When we consider (30b) we also have two readings. In one reading the whole event took two hours to be accomplished. In the less prominent reading, *in two hours* refers to some preceding time before the opening of the door (crucially not a preparation time for the culmination of opening the door). This latter reading is of no interest to us in this paper.

Now, consider (31), which without the adverbials can be interpreted with a STAY or a BECOME reading. If *ficar*+adjective is like *open*, it should allow the same kinds of readings.

- (31) a. A planta ficou bonita por três semanas.  
 The plant stayed/became pretty for three weeks.

<sup>12</sup> If the eventuality is not homogeneous, a Coercion operator will force a homogeneous reading by forcing iteration of the predicate, for example. If the eventuality is not quantized, a Coercion operator will force a quantized reading by adding a boundary either in the beginning or the end of the event (see de Swart 1998 for details).

- b. A planta ficou bonita em um dia  
The plant became pretty in a day (The new fertilizer is very good.)  
'It took a day for the plant to become pretty.'

Unlike the case of *open* in (30) the adverb *for x time* can only modify the result state in the *ficar*+adjective complex. An iterated reading is not possible. In other words, in (31a), we cannot have an iteration of become pretty (bounded by periods of non-prettyness).

As for (31b) the only reading we obtain is a reading that I believe is similar to the reading we get with the so-called achievement verbs, where arguably a punctual change (with basically no duration) obtains.

- (32) Maria reached the summit in five minutes.  
'It took Maria five minutes to reach the summit.'

In (32) *in five minutes* is modifying the process that antecedes the reaching of the summit, rather than the reaching itself. In (31b) it took a day for the plant to become pretty.

In order to explain the lack of an iterative reading (akin to (30a)) in the *ficar* complex, we have to examine more closely the conditions under which this reading arises.

Iteration (as repetition of an action over and over) of the VP predicate is only possible if the VP is bounded, as in (33a).

- (33) a. John hit the nail for two hours.  
b. John hit nails for two hours.  
c. John pushed the cart for two hours.

In (33a) the VP is bounded and an iterative reading is the only option with the adverbial *for two hours*. In (33b, c) the VP is unbounded (there is no information in the VP that allows us to determine when the event logically should end) and the adverbial *for two hours* establishes an independent time boundary. No iteration of the whole event occurs.

(33b) and (33c) are unbounded VPs for different reasons. Examples (33a,b) contain the verb *hit* which is sensitive to the cardinality of the object and can, therefore, use the object to measure out the event. If the object has quantity information, the VP is bounded; if the object is a bare plural, the VP is unbounded because there is no quantity information in the object. (33c) is a different case. *Push* is a verb that cannot combine with the object in such a way that the action imposed on the object and quantity properties of the object can be used to measure out the event. In other words, no homomorphism can be created between the verb and the object.

Now returning to *ficar*+adjective, if *ficar*+adjective does not allow a homomorphism between the verb and the adjective to be created so that changes in the property can measure out the event and no external measure is added to allow a bounded reading, this will explain why iteration is impossible. The event is not bounded.

Steinitz 1999a (following Jackendoff 1996 and Krifka 1998) argues that in German a homomorphism can be created between the verb *werden* 'become' and the adjective. In the comparative form a durative reading is possible as shown by modification with *for x time* adverbials:

- (34) a. Hans wurde jahrelang grösser.  
Hans got bigger for years.  
b. Hans wurde grösser und grösser.  
Hans got bigger and bigger.

Portuguese has almost no synthetic comparatives and the comparative is formed by the addition of *mais* 'more', as in English 'more interesting'. The addition of 'more and more' in front of the adjective forces an interpretation in which the degree of a certain property keeps increasing.

If *ficar* could compose with the adjective and form a homomorphism with it, we should be able to have a situation in which there is progress in time paralleled by or even matching with the degrees to which the property increases. In the example below, we should be able to

have a reading where at  $t(n)$  Maria became pretty to the degree ( $n$ ); at  $t(n+1)$  the degree of prettiness is  $D(n+1)$ ;  $t(n+2)$  corresponds to pretty  $D(n+2)$  etc., and this could last a certain amount of time.

Consider (35):

- (35) Maria ficou mais e mais bonita.  
Maria became more and more pretty  
'Maria became very very pretty.'

Contrary to the expectation, the only reading in (35) is that she became very very pretty. 'More and more' modifies the adjectival phrase only and modification by *for x time*, is unacceptable, as illustrated in (36).

- (36) \*Maria ficou mais e mais bonita por três dias.  
Maria became prettier and prettier for three days.

To obtain this pairing between time and increase in degree of a certain property we need explicit quantification over times as in (37).

- (37) Maria ficou cada vez mais bonita.  
Maria became each time more pretty  
Maria became prettier and prettier

It seems then that *ficar* cannot use the adjective (whether in a comparative form or not) to measure out the event of becoming pretty. If iteration is possible only when the event is bounded and if boundedness is possible only if the predicate is quantized or an external measure is added, then given that the event denoted by *ficar*+adjective is unbounded, this explains why iterative readings are not possible.

Now, let's turn to *in x time* in (31b). *In x time* is acceptable only to the extent that it modifies the initial part (the bringing about of a property) of the event described by *ficar*+adjective.

When the complex of *ficar*+adjective is modified by *in x time* adverbials only the BECOME reading is possible, which is expected under the assumption that this adverbial can only modify quantized predicates and we know that the STAY readings are homogeneous (given that they are acceptable with *for x time* adverbials).

If *for x time* has the option of finding a resulting state to modify and if *in x time* modifies the BECOME portion of the complex, these adverbs are not modifying the same subevent. We therefore predict that both modifications should be possible independently with *ficar*+adjectives, but a BECOME reading should be the only reading for the complex. Before I show this to be the case, I want to examine other cases where both types of adverbials can appear in the same sentence.

Consider first (38):

- (38) a. Maria read a book in three days for a month.  
b. Maria began to build houses for three days in an hour.  
c. Maria opened the door in a second for three months.

If we try to modify *read a book* by *in 3 days* and *for a month*, as in (38a), the only possible interpretation is one where *for a month* takes scope over *in 3 days* and the result is an iterative reading, namely that Maria read ten books in a month, one every three days. If we take a complex VP than involves an aspectual verb like *begin*, as in (38b), we are able to have both adverbials, one not taking directly as input the output of the other.<sup>13</sup> *In an hour* modifies the beginning point and *for three days* modifies *build houses*. Notice that *open* behaves like the *begin* complex and not like *read*. The opening action takes a second and the door is left open for three months or there is an iteration of door openings.

<sup>13</sup> We also can have a reading in which one adverb takes scope over the output of the other, but that reading is irrelevant for the point I am trying to make.

Now consider both modifiers with *ficar*+adjective.

- (39) Maria ficou bonita em três minutos por três dias.  
 Maria became pretty in three minutes for three days.

Here we have two readings. Either Maria took three minutes to become pretty and her prettiness lasted three days or we have the iterative reading in which for three days she became pretty three times and that took only three minutes each day. (*In x time* forces a quantized reading that can then be iterated.) A pragmatically more reasonable example is given in (40). So *ficar*+adjective behaves as a complex event that has a change of state part and a subsequent resulting state.

- (40) A casa ficou limpa em três dias por três minutos.  
 The house became clean in three days for three minutes.  
 (It took three days to have the house clean but that lasted three minutes.)

So far we can say that there is evidence that *ficar*+locatives allows for *x time* modification but resists modification by *in x time*. As for *ficar*+adjectives the evidence supports the idea that the complex is composed of two subevents. While the subevent introduced by *ficar* behaves as non-homogeneous (given its acceptability with *in x time* adverbials), the subevent introduced by the adjective is homogeneous and allows modification by *for x time*.

We can conclude that the *ficar*+adjective is composed of a quantized subevent and a homogeneous subevent and that *ficar*+locative has only a homogenous subevent. More specifically this homogeneous subevent is a state. No change occurs in the participants. As for the quantized subevent, it clearly denotes a transition, i.e., a change.

In this section I suggested that the modification by *in x time* produced results that were similar to the ones obtained when we try to modify predicates headed by the so called achievement verbs, i.e. verbs of so-called punctual transition. In other words, I suggested that *ficar*+adjective does not seem to involve intermediate steps between not having the property to having the property. In the next section I investigate this possibility more carefully.

## 2.4.2 *Almost and the progressive*

Various other tests have been used to distinguish verbs denoting states, activities, achievements, and accomplishments within the Vendler classification. These tests, as Verkuyl 1993 clearly shows, are usually tests for various independent properties that tend to correlate with a certain class but don't always. Although I side with Verkuyl in mistrusting these other tests, they nonetheless reveal differences between *ficar*+locatives and *ficar*+adjectives. *Ficar*+locative does not have the same possibilities of modification as *ficar*+adjective.

The tests I will apply are tests that are considered to distinguish achievements from both accomplishments and activities and will reinforce the partial conclusion above that the *ficar* complex is composed by two subevents, one preceding the other.

The first test will reinforce the idea that *ficar* does not allow modification that forces gradative changes. The second test, the progressive, will show that *ficar*+adjectives always have a BECOME part active to modification and that *ficar*+locatives do not.

### 2.4.2.1 *Almost and begin*

*Almost* is a test that has been used to show that some verbs have more than one subevent. The verb *open* allows three readings for *almost*, as illustrated below (see Dowty 1985, for a discussion).

- (41) Mary almost opened the door.  
 a. What Mary almost did was open the door.  
 b. What Mary did was almost open the door.  
 c. What Mary did to the door was almost open it .

Activity verbs behave differently.

- (42) John almost walked.  
a. What John almost did was walk.  
b. ?What John did was almost walk.

Example (42) does not have a reading corresponding to (41c) and the preferred reading is the first one (the reading in which John actually did not walk.)

*Almost* also allows various readings in the *ficar*+adjective case and in the *ficar*+locative case. But the position of the adverb is crucial for the interpretation.

When *quase* 'almost' is between *ficar* and the adjectival expression or the locative, all that is modified is the adjectival expression or the locative. This is illustrated in (43a,b).

- (43) a. Maria ficou quase bonita/ em pânico/ mais irritada.  
Maria became almost pretty/ in panic/ more irritated  
'Maria came to a state of being almost /pretty/ in panic/ more irritated.'  
b. Pegando esse ônibus, a Maria fica quase em casa.  
Taking this bus, the Maria is almost at home  
'Taking this bus, Maria is almost home.' (= very near to her home)

Support for the claim that *quase* is modifying the embedded predicate comes from adjectives, which in normal circumstances do not allow gradation. If the adjective does not allow gradation, the result is pragmatically odd, as illustrated in (44).

- (44) ??Maria ficou quase grávida.  
'Maria became almost pregnant.'

(44) is odd because *pregnant* is not an adjective that normally allows an 'almost-pregnant state'. To interpret this we need an abnormal context where not only we can have slow motion coming of being pregnant but also we need to be able to have a resulting state of partial pregnancy.

If the adverbial is between the subject and the verb, different readings arise, depending on the complement of *ficar*.

- (45) Maria quase ficou bonita/ em pânico / mais irritada.  
Maria almost became pretty/ in panic/ more irritated  
a. 'Maria become partially pretty...'  
b. 'What almost happened to Maria was to become pretty...'

- (46) Maria quase ficou grávida.  
a. #Maria almost became pregnant and the result is half pregnancy.  
b. 'What almost happened to Maria was to become/stay pregnant.'

(45) has two readings glossed as (a) and (b). In (45a) there is a change and the change results in partial prettiness. (45) also has a reading in which the event didn't happen at all (a reading possible with all verbs) (45b). Notice that with this reading both BECOME and STAY readings are possible.

In (46), on the other hand, the only plausible reading is that Mary didn't become or didn't stay pregnant at all. Again this is related to the fact that there is no halfway pregnancy (at least under normal circumstances). A reading in which the pregnancy gets interrupted halfway is ruled out because in these constructions the result state has to hold for some time.

With locatives, we get a reading that is identical to the case of activity verbs in (42). We also can interpret (47) like (43b), such that only the embedded locative (or locative relation) is modified.

- (47) O Pedro quase ficou em casa.  
The Pedro almost stayed at home  
'What almost John did was to stay at home.'

We can draw two conclusions from these facts: (i) *ficar* itself does not allow a gradable change; (ii) *almost* can modify the preparation time for change in *ficar*+adjectives but not in *ficar*+locatives, and the modification is dependent on the adjective and not on *ficar*.

A similar point related to the availability of preparation for change of the complex with gradable adjectives can be made by embedding the *ficar* complex under *começar* 'begin'.

- (48) a. Maria começou a ficar doente.  
'Maria began to become sick.'  
b. #Maria começou a ficar em casa.  
'Maria began to stay home.'  
c. Maria começou a ficar mais em casa.  
'Maria began to stay more at home.'

Assuming with Verkuyl 1995 that verbs like *begin* slice out the initial portion of the embedded eventuality, we can see that while this is possible in (48a), (48b) is awkward if uttered without a context. It becomes perfect if we make the embedded event into a habit, as illustrated in (48c), where we have a sequence of repeated events.

This illustrates that while with the *ficar*+gradable adjectives there is a preparation to the TRANSITION from not P to P which is always available for modification, this is not the case with *ficar*+locatives.

The two tests discussed above bring about a complication to our picture so far. *Ficar*+adjectives need to be split (at least for the *almost* test) into two groups: adjectives that allow gradation and adjectives that do not allow gradation. This complication, however, reinforces the idea that *almost* modification interpretations are dependent on the embedded complement.

Independent of this complication, which I will not address here<sup>14</sup>, it should be noted that while *almost* allows STAY and BECOME readings of adjectives, *begin* does not as it allows only a BECOME reading in the case of adjectives. The progressive will show the same effect, namely obligatory BECOME readings, when available.

#### 2.4.2.2 The progressive

In Brazilian Portuguese, unlike in English, all stative verbs and non-stative verbs are acceptable in the progressive.

- (49) Maria está sabendo do problema.  
Maria is knowing about-the problem

Thus, the progressive in Portuguese is not a good test for stativity, as some believe it is in English (but see Dowty 1985; Kearns 1991 and references therein). However, the progressive has been used as well to distinguish accomplishments from achievements. When used with an achievement, the progressive (when possible), modifies the preparation time for the event described. Thus in *Maria is reaching the summit*, the progressive modifies the climbing event, not the reaching event. This preparation time modification seems unavailable for *ficar*+locatives.

(50) shows that both *ficar*+locative and *ficar*+adjective are acceptable in the progressive.

<sup>14</sup> I believe that the correct analysis depends on being able to define appropriately what is an initial state vs a preparatory state etc. This definition will have to be filtered by world knowledge, in which case it is not a purely semantic property.

- (50) a. Maria está ficando em casa.  
Maria is staying at home.  
'Maria is staying at home.'
- b. Maria está ficando (mais) bonita.  
'Maria is becoming (more) pretty.'

However, the readings in (50a) and (50b) are not identical. (50a) does not have a reading in which the event is partially completed, but rather a different reading which mainly contrasts with the present tense reading in that the progressive gives a sense of temporariness to the described state, as the contrast between (51a) and (51b) shows. (The same contrast holds in English, as can be seen from the translations.) Other verbs that do not have a motion component and take locatives as arguments allow the same kind of reading, as illustrated in (51a) for Portuguese.

- (51) a. Maria está morando em Paris.  
'Maria is living in Paris.'
- b. Maria mora em Paris.  
'Maria lives in Paris.'

In (50b), on the other hand, only the BECOME reading is acceptable. In other words, Maria is coming closer to the state in which we can say she became pretty (prettier). However one will deal with this difference in the readings, we can assume that while there is some change within the participants of the event in (50b), there is no change in (50a).

What is important here is that with adjectives, we only get a BECOME reading even when the context forces a STAY reading. Consider, for example, the context in which Maria was very hungry at 9 o'clock but she didn't eat anything and continued to be hungry. In this context we can say (52) with the meaning in (52a). A BECOME reading (52b) would be infelicitous in this context.

- (52) Ela estava com fome e ficou com fome.  
She was with hunger and stayed/became with hunger.
- a. 'She was hungry and stayed hungry.'
- b. 'She was hungry and she became hungry.'

Now consider the progressive.

- (53) #Ela estava com fome e estava ficando com fome.  
'She was hungry and was becoming hungry.'

Although the context forces the STAY reading of *ficar*, the progressive still forces the BECOME reading and wins over context.

In previous tests, we noticed that *ficar*+pregnant was not able to be modified by *almost* or be embedded under *begin*. The progressive in this case (see (54)) also forces a reading in which we seem to watch Mary become pregnant in front of our eyes. This has been called the 'zoom reading'. The important point with such cases is that it is impossible to stretch the beginning of the action so that we can watch its inception.

- (54) Maria está ficando grávida.  
Maria is becoming pregnant

### 2.4.3 Summary and proposal

The tests above show that there is a sharp distinction between *ficar*+locatives and *ficar*+adjectives. *Ficar*+locative behaves as if there is no change portion that can be modified. *Ficar*+adjective, particularly gradable adjectives, behaves as if constituted of a complex event. One subevent denotes a change of state and another subevent, clearly linked to the embedded

complement, denotes the state result. This state can be shown to be homogeneous, given the acceptability of *for x time* adverbials. The relation between these subevents is clearly a relation of exhaustive ordered part of, i.e., precedence. There is a punctual transition followed by a state. More importantly, the progressive and the *begin* test, both of which can appear with activities and states, only allow a BECOME reading in the adjectival case.<sup>15</sup>

There are two ways to make sense of this distinction: either locatives block the TRANSITION, or all the effects we are finding above related to a 'punctual transition' are to be related to properties of the adjectival predicate embedded under *ficar*. Notice that there would be at least one advantage with the latter hypothesis, namely the fact that we would be able to explain, at least partially, why there is a difference between *ficar*+locatives and *ficar*+adjectival expressions. However, if the punctual transition that we find with *ficar*+adjectives were related to the embedded predicate only, we would predict that modification of the adjectival predication by *almost* etc. would be impossible, contrary to fact. Given this, I will assume that the TRANSITION is a property of *ficar*.

In the following sections I will assume that *ficar* is the element responsible for the BECOME part of the complex event but its availability is crucially dependent on the ability of the embedded predicate to license it. Adjectives will be able to license the BECOME reading but locatives will not.

There are conceptual and empirical reasons to believe that there are substantive differences between locatives and adjectival predicates in general.

First, in the locative case a relation between two independent objects is established: an individual and a location. In the adjectival case a property is predicated of the subject. Only the subject is an individual. In the case of locatives two individuals are related by a preposition.

In fact, Hale and Keyser (1998) argue that while prepositions are able to license a complement and a specifier, adjectives tend not to license specifiers or complements on their own. They need to be associated with another head (a null verbal head, for example) which can project a specifier that will allow the adjective's argument to be realized.

Second, the distinction between locative predicates and adjectival predicates seems to be grammaticalized in various languages. In Chinese and Thai, for example, there is a different copula for locative predicates. An example from Chinese is given below: locatives are introduced by a special element *zai* (55a) that is also a preposition (55b). Constructions with an adjectival predicate generally lack an overt copula as in (55c).

- (55) a. ta zai bandongshi-li  
           he exist office-in  
           'He is in the office.'
- b. ta zai Berlin gongzuo  
           he at Berlin work  
           'He works in Berlin.'
- c. tang re  
           soup hot  
           'The soup is hot.'

Third, modification of copula constructions with locatives and with adjectival predicates is radically different. Consider the following paradigm:

<sup>15</sup> I believe the distinction between *almost* (which allows STAY readings for adjectives), in one hand, and *begin* and the progressive, in the other hand, is related to the fact that both *begin* and the progressive are heads and *almost* is an XP adjunct. We know independently that matching of features between heads is much more strict than matching of features between non-heads. (see Munn 1999, for example).

- (56) a. Mary is in the kitchen with Peter.  
b. Mary is in the kitchen annoyed.
- (57) a. \*Mary is tired with Peter.  
b. \*Mary is tired annoyed.

While the comitative 'with Peter' and the secondary predicate 'annoyed' are perfectly acceptable with locative copula constructions, comitatives and secondary predicates are unacceptable with adjectival copula constructions. See similar observations by Maienborn 1999.

Given these differences, it is not surprising that adjectival predicates behave differently from locatives in the *ficar* complex. Locatives also differ from other types of predicates in Portuguese in with respect to inversion.

The subject in Portuguese, in constructions that have a locative, can appear either before or after the verb bearing narrow focus.<sup>16</sup>

- (58) Quem chegou em Brasília?  
Who arrived in Brasília?  
a. A Maria chegou.  
Maria arrived.  
b. Chegou a Maria.  
Arrived Maria

If *ficar* takes a locative as its complement, the subject can appear after the verb, but if *ficar* takes an adjectival predicate as a complement, inversion is not possible. This is illustrated below.

- (59) Quem ficou em Brasília?  
Who stayed in Brasília?  
a. A Maria ficou  
Maria stayed  
b. Ficou a Maria  
Stayed Maria
- (60) Quem ficou com fome/doente?  
Who became / stayed hungry?  
a. A Maria ficou.  
Maria became/ stayed.  
b. \*Ficou a Maria  
Became/Stayed Maria

While locatives allow inversion in the context of narrow focus of the subject, adjectival predicates do not in either of the readings.

A similar contrast between *ficar*+adjectives and *ficar*+locatives is illustrated below in presentational contexts:

- (61) Fica um homem na sala  
Stays a man in the living room
- (62) a. \*?Fica um homem feliz  
Becomes a man happy  
b. ??Fica um homem feliz  
Stays a man happy

(61) is perfect but (62a) and (62b), where *ficar* takes an adjectival predicate, are unacceptable.

<sup>16</sup> See Pinto 1997 for an interesting analysis of this phenomenon in Italian.

However we want to account for the differences above between locatives and adjectival predicates, obviously the differences will affect the *ficar* complex.

We need then a lexical semantic representation of *ficar* to start with. *Ficar* is similar to an aspectual verb like *begin* in the sense of also taking an event function as its argument.<sup>17</sup> However, *ficar* is more restricted than *begin* in a number of ways: *ficar*, unlike *begin* selects for a state type of eventuality only, and, unlike *begin*, *ficar* does not have a PROCESS subevent, instead it has a TRANSITION subevent.

Pustejovsky (among others) has argued that *begin* allows both raising and control. In the control reading the complement selected has to be a transition and in the raising reading all eventualities are acceptable.

The evidence to decide whether *ficar* has raising or control properties is contradictory. Like raising verbs, the selectional properties depend on the embedded predicate, and in both readings, STAY and BECOME, *ficar* can have 'weather' *it* as a subject.

- (63) Ficou frio, nublado e úmido.  
 a. It became cold, cloudy and humid.  
 b. It stayed cold, cloudy and humid.

However, like control verbs and unlike raising verbs in (64), *ficar* can appear in the imperative (in both senses) as illustrated in (65).

- (64) a. Try to eat!  
 b. \*Seem happy!
- (65) a. Fica contente!  
 Become happy!  
 Stay happy!  
 b. Fica aqui!  
 Stay here!

The representation below attempts to capture the event structure properties of *ficar* discussed so far, at this point treating *ficar* as a raising verb.

- (66) *ficar* (to be modified)
- EVENTSTR = E1= e1: transition  
 E2= e2: state  
 RESTR = <
- ARGSTR = ARG1 = e2 = ef<sub>1</sub>[ <x, <e2,t>>]
- QUALIA = bring about state  
 FORMAL: exist (x, e2)

*Ficar* takes one argument and that is an event function for a state. As for the event structure, the representation above aims at showing that *ficar* denotes a transition and together with its complement it denotes a transition to a state. As for the qualia, we know that there exists a state that holds of the subject of the stative predicate before the transition takes place. The state that holds of the subject corresponds to the FORMAL role of *ficar*.

The structure in (66) is, however, incoherent because e1 and e2 do not share a parameter. Thus the subevents do not cohere. All we know is that one subevent precedes the other, but they do not form a unit, under the assumption that at least one individual has to be a participant in both subevents.

<sup>17</sup> An eventual function is equivalent to the type <ind, <event,proposition>>. A proposition is the result of applying tense to an event description.

The state e2 is brought about by some change (of which we don't know the cause, internal or external). In a sense this is similar to a verb like *break* in its unaccusative use. When we say 'the vase broke', something must have happened to bring about a broken vase, but we do not have any argument linked to the agentive role in order to determine what caused the vase to break. Nonetheless 'the vase' is affected. It goes from a non-broken state to a broken state. It undergoes a change.

If we add the change part to the qualia of *ficar*, we have to link the transition/change part of *ficar* to the subject of the resulting state, since it is the subject that actually changes from not having a property to having a property. In other words it is the subject of e2 in the representation above that will allow the events to cohere, since both the change and the state resulting make reference to the same element x. Moreover, the change in the subject has to be a change that allows the state to hold of the subject in e2. This means that if the change is a total transformation in the sense that it denies that the subject in e2 has the properties of the subject, then the result is ill-formed.

An example is given below:

- (67) a. #O sapo ficou (um) príncipe, depois da mágica da bruxa.<sup>18</sup>  
 The frog became (a) prince, after the spell of the witch.  
 b. \*O ouro roubado de uma igreja ficou uma estátua  
 That gold stolen from a church became a statue.  
 c. O sapo *virou* (um) príncipe, depois da mágica da bruxa.<sup>19</sup>  
 The frog turned (a) prince, after the spell of the witch.  
 'The frog turned into a prince, after the spell of the witch.'  
 d. \*O ouro roubado de uma igreja virou uma estátua  
 That gold stolen from a church turned a statue.  
 'That gold stolen from a church turned into a statue.'

(67a) involves a total transformation from frog to prince, and (67b) involves a material/product transformation from church gold to statue. These are both unacceptable with *ficar*. We need a different verb in order to encode this total transformation, as illustrated in (67c) and (67d).

It is unclear whether this change subevent that involves the subject is actually part of the AGENTIVE role, since the AGENTIVE role seems to be more related to direct or indirect causal relations. Provisionally I will assume that the transition is within the AGENTIVE role. The exact label is irrelevant for this discussion. What is important is the recognition of two subevents each one with different properties. The FORMAL role will be the same as given above; the AGENTIVE role establishes a relation between a change of state, an individual x and a state that holds of an individual x.

|            |                                                                                           |               |
|------------|-------------------------------------------------------------------------------------------|---------------|
| (68)       | <i>ficar</i>                                                                              | (provisional) |
| EVENTSTR = | E1= e1: transition<br>E2= e2: state<br>RESTR = <                                          |               |
| ARGSTR =   | ARG1 = x<br>ARG2 = e2 = ef <sub>1</sub> [ <x, <e2,t>>]                                    |               |
| QUALIA =   | bring about state<br>FORMAL: exist (e2, x)<br>?AGENTIVE: change (e1, x, ef <sub>1</sub> ) |               |

In what follows, I will be defending the following basic proposal: In the cases of *ficar*+locatives e1 is not linked to any argument at all and is then interpreted as part of the

<sup>18</sup> A reading where a prince is interpreted as prince-like is possible, which shows that the problem is not purely a problem that *ficar* disallows NPs in predicative position.

<sup>19</sup> It should be noted that all the verbs that allow total transformation of the subject are motion verbs.

'constant' meaning of the verb. Evidence for being part of the 'constant' meaning of *ficar* will come from the comparison between *ficar* and *stay* and *remain* in English. As for *ficar*+adjectives I will argue that the subject of the embedded complement can be used to license e1.

### 3 *Ficar* + locatives: deriving the STAY reading

We know that the BECOME reading is unavailable for locatives, but if BECOME is simply a change from NOT P to P, then we might ask why we do not get a change in location, i.e. why couldn't *ficar*+locative mean a change from not being at a location to being at a location? In this section I will address and try to provide an answer for the following questions:

(i) if *ficar* is basically a head that means TRANSITION that selects for a state/location, why does the combination of CHANGE + LOCATION not give us a reading like *go*, *get to*, or *arrive at*?

(ii) if we never get a change of state with locatives, what happens to this change part?

I will start by discussing PP locatives and then I will address (i) and (ii).

#### 3.1 Properties of locatives

Let's assume that prepositions are two-place relations. In *John in the park* the relation is between *John* and *the park*.

The rudimentary lexical structure for a locative preposition<sup>20</sup> is given below:

- (69) Locational preposition  
 EVENTSTR                    E1= e1 state  
                                   ARG 1 = 1 object/ individual  
                                   ARG 2 = 2 object  
 QUALIA:                      location  
                                   FORMAL: at ( e1, 1, 2)

What is crucial here is that the preposition has no AGENTIVE, CONSTITUTIVE or TELIC role to link to the arguments. All the locative preposition does is to establish a relation between two objects.

We can then assume that *ficar* merges with a PP that has a specifier and a complement. (I am ignoring functional projections for this discussion.) This is illustrated in (70a) for prepositional locatives. An identical structure, with a null preposition, is assumed for adverbial locatives, as in (70b).

- (70) a.                    *ficar*  
                               /    \  
                               *ficar* PP  
                               /    \  
                               DP   P'  
                                   /   \  
                                   P   DP
- b.                            *ficar*  
                               /    \  
                               *ficar* PP  
                               /    \  
                               DP   P'  
                                   /   \  
                                   P   aqui (here)

We know that *ficar* in these cases does not allow modification by *in x time* and has no BECOME reading with the progressive or with *begin*. Therefore we can safely assume that e2 is the head of the complex. The following structure combines the *ficar* properties with the locative properties.

<sup>20</sup> More details will be necessary to specify different kinds of prepositions (see Asher and Sablayrolles 1996 for details) but this is immaterial for our discussion. More over, it is unclear to me at this point whether there is an event argument or not as part of the argument structure of the PP. A conservative view would say that there is not. In this case, it may be necessary to introduce a verbal head to license the event argument. Assuming a verbal head, to be equivalent to an identity function, the difference is immaterial for the selection properties of *ficar* and how it combines with the locative.

- (71) *ficar em Paris* (to be modified)
- ficar in Paris*
- EVENTSTR = E1= e1: transition  
 E2 = e2: state  
 RESTRIC = <  
 HEAD = e2
- ARGSTR = ARG1= e2: ef: <x, <in Paris, t>>
- QUALIA STR = FORMAL: exist ( x, in Paris)

Now we need to know why there is no possibility of having e1 as the head and what happens to e1.

### 3.2 Why change+locative is not change of location

In the BECOME readings it is clear that e1 is associated with change and that the change involves a change in a property that the subject comes to have in the result state.

The question is why we cannot establish that the transition subevent is related to the subject or the location itself. In other words, why can't we combine *ficar*+locative and end up with change of location?

If we use Jackendoff's decomposition of STAY and GO, we certainly have a common basis. Both involve a relation BE between [Thing] and [Space]. The question is why *ficar*+locative cannot mean GO.

The difference between STAY and GO, according to Jackendoff, is that in GO the location of the object changes with time but not with STAY. For GO, the spatial coordinates of the [Thing] change with time. In fact, the binding of the change of location by the [Thing] with [Time] creates a PATH. So STAY does not allow a homomorphism between the event, time, and the change of location in such a way that a PATH can be created to measure the event. GO does, however.

We have already seen that *ficar* denotes a transition that has no duration. We have also seen that we could not make this transition combine with a property to create a way to measure out the event, by creating a homomorphism between the property, the situation, and time.

*Ficar* is therefore a type of change that does not allow a PATH to be created (i.e., intermediate states between not having P and having P).

On the other hand the preposition by itself cannot create a PATH because the preposition has no directional properties. Evidence for this comes from the unacceptability of examples like (72).

- (72) \*Ele ficou de Porto Alegre para São Paulo.  
 He stayed from Porto Alegre to São Paulo.

Even if we try to have a change that is not durational but is arguably punctual, like *buy* and *sell* in the possessional domain, the result is unacceptable.

- (73) \*O livro ficou da Maria para Claudia.  
 The book came to be from Maria to Claudia.  
 'Maria's book is now Claudia's book.'

To express this it is necessary to have GO:

- (74) O livro vai da Maria para a Claudia.  
 The book goes from Maria to Claudia.

Directional prepositions have a motion component encoded in their qualia that needs to combine with a verbal element that also has a motion component in order for the result to be well formed.

The conclusion is that although we have 'change' as part of the meaning of the verb *ficar* and we also have a locative, we do not have the right type of change in the verb for motion to arise. The preposition does not have a change component either. So no possibility of combination arises.

### 3.3 What happens to e1?

We still need to understand what happens with e1. We could say that the locative becomes the head of the event and that e1 is shadowed. Shadowed subevents are nonetheless associated to arguments that can be realized as adjuncts. The question is what would be the argument related to the change of/to this state. Since e1 is a change, we need an argument that has a possibility of change.

In Pustejovsky's analysis of *build* for example, *build* has three arguments, a builder, a product and also material, since we cannot build without material. Therefore 'material' is part of the logical argument structure of the verb. The material argument can be realized in various ways as illustrated below:

- (75) a. John built a house out of wood.  
 b. John built a wooden house.  
 c. John built a house.

It can be realized as an adjunct (75a), or as a modifier of the product itself (75b), since the material is a CONSTITUTIVE role of the product of building. Alternatively it can be realized as an implicit CONSTITUTIVE role of 'house' in the example above.

Now, going back to the case of *ficar*+locative, we are looking for an argument for change. A candidate for this role is the external argument of the preposition. After all in *Maria stayed home*, Maria is an individual that has as part of its qualia the FORMAL role of being movable, changeable. If we could use the fact that Maria denotes an individual that can undergo changes, why can it not be a participant in an event of change of location?

I think that this question is to be answered in structural terms and shows that the possibilities of qualia composition are structurally restricted. I would like to propose then the following Locality Condition on Qualia Exploitation:

- (76) **Locality condition on Qualia Exploitation**  
 The qualia of an argument internal to a selected complement can be used for co-composition with the qualia of the selecting head iff the qualia in the complement matches with the qualia of the selecting head.

The intuition behind (76) is that in *Mary stayed at home*, mobility is a property of Mary, but it is not a property of the preposition and therefore the qualia of *ficar* cannot have access to the properties of Mary that are not related to its properties as the external argument of the preposition. For this to occur the qualia structure of the preposition should have also an AGENTIVE role associated to e1.

This means that e1 is not only shadowed, it is not linked to an argument at all, since no argument satisfies its selectional restrictions given the locality imposed by (76) above. This leaves us with a subevent not linked to an individual argument at all.

We know that arguments have to be participants in events or be subjects of predicates in order to be licensed. I would like to argue that the converse is also true. In order for a subevent to be realized as part of the structural meaning of the predicate (as opposed to the constant meaning of the verb) it has to be linked to an argument. The intuition is that there is no subevent if there are no participants.<sup>21</sup> If events are spread into time, and times are perceived through events, I would like to speculate that the only kinds of subevents that can be left unlinked to an argument are transitions that can be interpreted as punctual.

<sup>21</sup> Weather verbs *it* has to be interpreted as a participant, as many languages suggest.

E1 must then be a transition that is left unbound by an argument and cannot be existentially closed because it is not linked to anything in the argument structure. There is no default argument that can be associated to it. The following conditions have to be met for a subevent to be left unlinked to the syntax.

- (77) Conditions for a subevent to be left unrealized:
- a. There are no arguments that satisfy its conditions.
  - b. The subevent is a punctual transition.

### 3.4 *Ficar, stay and remain*

The hypothesis that e1 is left unlinked to an argument and becomes then part of the constant meaning as a punctual transition (i.e., a boundary) predicts that we should find in part of the meaning of *ficar* some transition portion that is part of the 'constant' meaning of *ficar* and influences its discourse use.

I believe that I can show this to be the case. I will compare *ficar* with *stay* and *remain* to show that *ficar* does have a transition portion in its 'constant' meaning and that it is this that allows us to use *ficar* in contexts where the previous state is not the same as the asserted state. It is this transition 'constant' that will distinguish *ficar* from the copula verbs with locatives.

In English *stay* appears with locatives and so does *remain*. *Remain* and *stay*, however, carry different presuppositions. While *stay* has an event internal presupposition, such that for all times after the reference time, the event holds, *remain* has an external presupposition, namely that even for times before the reference time the event holds. No change has occurred. The following examples illustrate this distinction:

- (78) a. John has just arrived and is looking for a place to stay tonight  
b. \*John has just arrived and is looking for a place to remain tonight

While we can look for a place to stay, we cannot look for a place to remain, since *remain* presupposes that the previous state is the same as the state that is asserted. Another example is given below that shows the different between *remain* and *stay* in English.

- (79) a. After the war, John was in Paris  
b. After the war, John remained in Paris  
c. After the war John stayed in Paris

In (79a) there is no reference to an event. All there is is the assertion that a state held after the war. In (79b), it is crucial that John was already in Paris before and/or during the war; in (79c) the event has a beginning point that could have coincided with the end of the war or preceded it.

If part of the meaning of *ficar* is a transition and this subevent is analysed as a boundary, *ficar* should not pattern with *remain*. Consider the examples in (80) both of which are perfectly acceptable.

- (80) a. O João está procurando um lugar para ficar.  
João is looking for a place to stay/\*remain
- b. Depois da guerra, o João ficou em Paris  
After the war, the João stay-PPERF in Paris.  
After the war, he stayed in Paris  
After the war is a time that can coincide with the beginning or not of his staying in Paris.

In (80b) the conversational background will define whether João was in Paris before or not. The point is that *after the war* can be used to identify a boundary, depending on the context. Note that this reading is very close to a reading that we could paraphrase as 'come to be':

- (81) It came about that after the war John came to be in Paris.

The comparison between *ficar* and *remain/stay* in English shows that *ficar*+locative allow a boundary to be identified in the discourse.

In other words, the transition is available as part of the 'constant' meaning of the verb (in the sense that is not realized with arguments) and it can be interpreted as a necessary boundary for a state.

Summarizing, *ficar*+locatives only instantiates e2 as part of the active part of the meaning of the verb. E1 is part of the constant meaning. This happens because in order for a subevent to be realized, it has to be associated with an individual through the qualia structure of the complement of *ficar*. In the case of *ficar*+locative, e1 is only associated to e2 by a precedence relation, but not by a shared argument. Therefore, it can only be used as part of the constant meaning of the verb.

#### 4 The BECOME and STAY readings with adjectives

The goal of this section is to capture both readings of *ficar*+adjectives. I will argue that in the case of *ficar*+adjectives, the qualia structure of the adjective allows the subject of the adjective to license e1. In the previous section I argued that e1 could not be shadowed with locatives because it could not be linked to any appropriate qualia. In this section I would like to argue that the distinction between STAY and BECOME readings with adjectives comes from shadowing.

The section is organized as follows: first I discuss properties of adjectival predicates, then I account for the BECOME and STAY readings of *ficar*+adjectives.

##### 4.1 Adjectives and qualia

Pustejovsky (1995) discusses the distinction between stage-level and individual-level adjectives as a distinction in terms of their AGENTIVE qualia. He suggests that certain properties are artifactual, in the sense that they must be preceded by some other subevent, which he calls a default event D-E. Consider (82), for example:

- (82) John is angry at the newspaper.

In (82) the state of being angry must be preceded by a change in John, namely John becoming angry caused by an event of reading the newspaper. This preceding event is linked, however, to an undefined argument that is associated with the causer of the 'get angry' experience, as illustrated below:

- |      |            |                                                                    |
|------|------------|--------------------------------------------------------------------|
| (83) | angry      |                                                                    |
|      | EVENTSTR = | E1 = e1:state<br>D-E1 = e2:process<br>RESTR = e2 < e1<br>HEAD = e1 |
|      | ARGSTR =   | ARG1 = 1 [human; FORMAL =animate]<br>D-ARG1 = 2 [ undefined]       |
|      | QUALIA =   | FORMAL = angry (e1, 1)<br>AGENTIVE = experience-act (e2, 1, 2)     |

If adjectival predicates can have an implicit internal or external cause, which is mapped into an agentive role, we have a difference between locations and adjectives. Locations do not have causers, states can have causers. Evidence for this comes from the fact that an adjunct causer can be added to *ficar*+adjectives, but this is impossible with *ficar*+locatives.

Compare the acceptability of (84a) with the unacceptability of the causer with *ficar*+locative (84b).

- (84) a. A Maria ficou bonita com o vestido novo/ com a idade.  
The Maria became pretty with the new dress/ with the age  
'Maria became pretty with the new dress/ with age.'
- b. \*A Maria ficou em Paris [com a/ pela Air France]  
The Maria came to be/stayed in Paris [with the Air France/ by Air France]  
'Maria stayed in Paris with Air France/ by Air France'

In (84a) the new dress or aging is the cause of becoming pretty. In (84b) Air France is what brought Maria to Paris but it cannot be realized as an adjunct.

If every transition actually has an implicit causer, then the structure for *ficar* has to be reformulated as below by adding a third event to the lexical structure of *ficar*:

- (85) *ficar*
- EVENTSTR = E1 = e1: transition  
D-E = e2: process  
RESTR = e2 < e1
- ARGSTR = ARG1 = x  
ARG2 = e3 = ef<sub>1</sub>[ <x, <e2,t>>] = state  
D-ARG1 = 1 = [T]
- QUALIA = bring about state  
FORMAL: exist (e2, x)  
AGENTIVE: act (e2, 1, e1, x, e3)

Note that we are not violating the assumption that a verb can only have two subevents. Subevent e3 is not part of the entry for *ficar*. Rather it is the argument of *ficar*.

If this is correct, when we combine *ficar* and an adjectival predicate, we end up with something like (86).

- (86) *ficar bonita*
- EVENTSTR = E1 = e1: transition  
E2 = e2: state  
D-E = e3: process  
RESTR = e3 > e1 > e2
- ARGSTR = ARG1 = x  
ARG2 = e2 = ef<sub>1</sub>[ <x, <e2,t>>]  
D-ARG1 = 1
- QUALIA = bring about state  
FORMAL: exist (e2, x)  
AGENTIVE: act (e3, e1, e2, 1, x)

There are two options for realizing the argument(s) of the AP in the syntax. Either the argument is licensed as the subject of the adjectival predicate and then raises to a regular subject position, or the argument of the adjective is licensed in the specifier of the adjectival predicate and *ficar* also assigns a role to the subject, in which case the result is a control structure. As the discussion in section 2 made clear, the evidence for or against raising versus control is not very convincing. Clearly, however, we want the subject to undergo a change so that the subject in the result state has a certain property. If we think that *ficar* actually forces a change and the result is the subject having a certain property, we have to assume that there are two roles being assigned in this case.

## 4.2 The BECOME reading and the STAY reading

In the previous section, I argued that there was nothing in the qualia of the locative that would allow change to be related to the locative or its external argument. In other words, the behaviour of CHANGE+LOCATIVE was anomalous, but, as we have just seen, adjectives have the possibility of encoding change.

Since the Locality condition stated in (76) says that we can only use some argument of an embedded predicate as an argument of a selecting predicate if the properties that the selecting head require are also part of the embedded predicate, we can use the argument of the adjectival predicate as a licenser of e1. In other words, we can license subevent e1 by using the subject of the adjectival predicate.

Whether we implement the mapping of this relation between the argument of the adjectival predicate and the argument of *ficar* via control in the syntax or via function composition (raising) is immaterial for the point being made here. For our purposes all that matters is that there are properties in the adjectival predicate that will allow the change subevent to be associated to an argument, more specifically to the subject (since it is the subject that undergoes a change).

The combination of *ficar*-adjectives is a clear case of function application with qualia unification.

We can now treat the STAY readings of *ficar*+adjectives as the result of shadowing of e1. In this case only the result state is realized, i.e., the FORMAL role of *ficar*+adjective.

## 5 Summary and Conclusion

In this paper I have made use of Pustejovsky's generative lexicon in order to explain the multiple readings of *ficar*, which are dependent on the complement. The GL is particularly suitable to describe and explain this particular type of phenomenon. I examined the subcategorization properties of *ficar* and the aspectual properties of the complex, highlighting the differences between *ficar*+locatives and *ficar*+adjectival modification.

I The basic meaning of *ficar* is a transition.

II *Ficar*+adjective can give two readings: a STAY and a BECOME reading. The BECOME reading is the result of combining the AGENTIVE part of the qualia of the adjectival predicate with the TRANSITION of *ficar*. The STAY readings of *ficar*+adjective are the result of shadowing the transition.

III In *ficar*+locative only a STAY reading is available and e1 is reduced to part of the 'constant' meaning of the verb. In this case e1 cannot be shadowed because subevents cannot be shadowed when they are not associated to arguments.

IV The distinction between the two STAY readings explains why a BECOME reading is never available for modification or selection in the *ficar*+locative case. *Ficar*+adjective, on the other hand, always has the transition event associated to an argument, even if the whole subevent is shadowed. This explains why the transition part is always active and has to be selected by *begin* or the progressive (which select for the initial portions of an event when there is one). I have argued that subevents have to be linked to arguments in order to be able to be modified by certain types of modifiers or be selected by certain types of heads.

V I also argued that subevents can only remain unlinked to arguments if they denote transitions. If this approach to problems like the one posed by *ficar* are on the right track it can be generalized to explain similar facts in Swedish, German and other languages where verbs that denote transition allow STAY readings and vice versa, depending on the complements. See Steinitz 1999b.

The distinction between *ficar*+adjective and *ficar*+locative is yet another instance in which locatives and properties behave distinctly. Of course, more needs to be learned with respect to adjectival predicates and locative predicates and how far this distinction affects the syntax and the semantics of predicative constructions.

By comparing the behaviour of *bleiben* and *werden* in German, *stay*, *remain* and *become* in English and *ficar* in Portuguese we should find the sources for the different behaviour among these verbs. Although there are similarities, there are also subtle differences. If the GL approach is in the right track it will allow us to define the range of possible variation for copula-like verbs.

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