LEARNING ABOUT THE SYNTAX-SEMANTICS INTERFACE: A STUDY OF COGNATE VERBS IN BRAZILIAN PORTUGUESE AND ITALIAN

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ABSTRACT
The purpose of this study is to discriminate between strictly structure-derived meaning of verbs and additional arbitrary semantic properties negotiated at each syntactic phase. Cognate verbs in historically related languages appear to be a valuable empirical area for investigating the necessary theoretical distinction between the two sorts of semantic properties of verbs.

RESUMO
Este estudo tem por objetivo estabelecer uma discriminação necessária entre o significado de verbos derivado da pura estrutura sintática e outras propriedades semânticas negociadas em cada fase sintática. A análise comparativa de verbos cognatos em línguas parentes fornece informações relevantes para esclarecer a distinção teórica necessária entre dois tipos de propriedades semânticas dos verbos.

KEYWORDS

PALAVRAS-CHAVE
Introduction

At present, there are two families of hypotheses about the relation between the syntactic context of a verb and its meaning: projectionists and constructionists.

According to the projectionist hypothesis, each verb in a given language possesses a set or a list of sets of thematic roles to be attributed to its arguments in specified syntactic positions. These syntactic positions are created by each verb according to the thematic roles that have to be discharged on its arguments in order to produce the desired meaning. When lexical insertion happens the role for each syntactic argument is discharged as predicted by the internal semantic potentialities of the verb in the context of insertion. Another word frequently employed as a tag for this theoretical approach is lexicalist theory, since the entity that originates the projection of thematic roles into the syntactic structure is a lexical item.

Constructionist hypotheses invert the direction of the operation: the verb by itself consists merely of its phonological form. Depending on the construction into which it is inserted, a particular meaning emerges. An essential component of the syntactic context is the categorizer morpheme that turns a pure root into a verb.

There is no unanimity in constructionist hypotheses. For Distributed Morphology (MARANTZ, 2001), the proposed hypothesis is that a root gets its encyclopedic reading (arbitrary, non compositional) at the derivational stage of its first categorization. From then on, all new meanings are regularly and compositionally derived from the first meaning. So for example, the root $\sqrt{\text{code}}$ becomes the noun code when nominalized, and by addition of the prefix en- it becomes the verb encode, syntactically derived from the noun code. The verb’s meaning is derived compositionally from the meaning of the noun code.

When two words are morphologically related, two semantic possibilities exist. The expression ela colocou o selo no envelope com saliva (she
attached the stamp on the envelope with saliva) is acceptable; ela esmalteu o vaso com aquarela (she enameled the vase with watercolor) is not. Marantz’s proposal about this difference in semantic compositionality of the verb is that the morphological structure of the verb colar (to stick) contains the root √col-, but not the noun cola (glue); the verb esmaltar (to enamel) contains the noun esmalte (enamel), and the meaning of the verb is composed from the meaning of the noun. The prediction of this theory is for arbitrary meaning at the first categorization of a root and compositional meanings at all categorizations after the first one. What this theory does not predict is a late non-compositional meaning in a multi-layered word.

In her exo-skeletal theory HAGIT BORER (2003) shows plenty of examples where a root appears in different structures, each with a non-compositional meaning with respect to the other, as in the sequence act, react, reaction, reactionary (BORER, 2003). Note that the meaning of react is not compositionally derived from the meaning of the verb act and the meaning of the word reactionary is not compositionally derived from the meaning of reaction. This sort of data leads her to conclude, contrary to Marantz, that encyclopedic search can apply at any point of the derivation of a complex word.

1. Purpose

In this work we are comparing patterns and meanings in cognate verbs in Brazilian Portuguese and Italian. What justifies this enterprise is our belief that it will give a useful set of data not only to select the best theory but also to clarify the difference between the sort of meaning that comes from the pure compositional association of root and pattern and the sort of meaning that parasitically attaches to and modifies the structural meaning.

The basic grounding idea that guides our working method is found in MARANTZ (2005): there is a small number of syntactic patterns
relevant for universally basic types of pairing between structural and encyclopedic meaning. We are adopting the set of syntactic patterns proposed in Marantz’s paper as the finite and small range of structural possible contexts for the verbs we are analysing.

In the very beginning of this work an ubiquitous observation became dominant: verbs are polysemic, and the central factor for polysemy is its syntactic context. No interesting explanatory hint for the verbs polysemy was obtained by hypotheses based on inherent semantic properties of roots, which are indeed very hard, if not impossible, to define. Occasionally, when gathering data from Portuguese verbs, we found lags, that is, the absence of possible sentences fitting one of the possible patterns. Consulting a sister-language dictionary (Italian), many lags were filled up by the cognate verb in this language.

But not only this: the second language data provided other semantic subcategorization possibilities for cells in the table. The total Italian-Portuguese occurrences of a given root occupied a larger space in the table than each one of the roots of each language by itself. This fact affects the mapping between a given root and its syntactic contexts. In view of these preliminary bilingual observations, we decided to enlarge the project into a comparative Portuguese-Italian study. A defense of this comparison is that naïve bilingual speakers of Romance languages do believe that phonologically corresponding verbs of one language are «the same verb» as the other language’s cognate verb.

As a result of this bilingual analysis of Italian and Portuguese verbs we will hopefully be able to see whether the data favor the projectionist or the constructionist theoretical predictions: if there is a concentration of contextual use per roots, the projectionist bit is the winner, and conversely, if each verb is licensed in multiple syntactic contexts with consequent rather regular meaning changes, then the constructionist theory will acquire more value.
The essential theoretical assumption on the basis of this work is that there is a small number of syntactic patterns of very restricted types containing a little -v where bare roots, nouns or adjectives can be inserted, with different non-compositional meanings being possibly negociated in each of these contexts.

2. The patterns

The syntactic patterns in MARANTZ (2005) decompose the meanings of verbs, and in so doing explain the semantic effect of the prefix re-, which is the focus of that paper. These patterns have to do with just one part of the meaning of verbs. Hypothetically, they underlie structural meanings of verbs universally:

- **a.**
  \[
  \begin{array}{c}
  \text{V} \\
  \text{V} \quad \sqrt{\text{jump}}
  \end{array}
  \]

- **b.**
  \[
  \begin{array}{c}
  \text{V} \\
  \text{V} \quad \sqrt{\text{bake}}
  \end{array}
  \]

- **c.**
  \[
  \begin{array}{c}
  \text{V} \\
  \text{V} \quad \text{V}_{st} \\
  \text{the door} \quad \text{V}_{st} \quad \text{open}
  \end{array}
  \]

- **d.**
  \[
  \begin{array}{c}
  \text{V} \\
  \text{V} \quad \sqrt{\text{put}} \\
  \text{the book} \quad \text{R} \\
  \text{on} \quad \text{the table}
  \end{array}
  \]
Pattern (a) underlies intransitive verbs that after combining the root with a category mark will mean ‘do in the manner of dancing, of singing, of ringing, of drawing’, etc. Basically such verbs express a production process. Pattern (b) is an extension of (a), where the direct object names the product of the action: ‘sing a song’, ‘dance a waltz’, ‘ring a bell’, ‘draw a giraffe’. Marantz calls such direct objects incremental themes, and shows that they express events, even when they are nouns.

Pattern (c) has stative verbs expressing the final state of a process where something undergoes a change, as in ‘open the door’, ‘boil some milk’, ‘warm the soup’, ‘clean the floor’. These verbs often combine with a causing agent, and in this case some other functional morpheme needs to combine with the predicate to create a specifier place for the subject.

In structure (d) are HALE & KEYSER’S (1993) location/locatum verbs. This structure is an extension of type (a), because the event constructed on the root creates another eventuality, the placement of an entity in a place: ‘shelf the books’, ‘carpet the living-room’.

Structures (e) and (f) are called applicative constructions: (e) underlies a possession relation between two individuals, and (f) creates a beneficiary relation between an event and an entity that is affected by it. Languages vary in how and how much they make use of these two sorts or applicative morphemes. (PYLKÄNNEN, 2000).
3. Ranges of readings in cognate verbs

The historical relationship between Romance languages is so close that in any pair of languages there are innumerable verbs with phonologically almost identical roots, and also a big range of similar or identical readings. This similarity is clearly perceived by bilingual speakers, who ‘believe’ it to mean that the two verbs are one and the same linguistic entity. In this section we will present descriptions of pairs of cognate verbs, working in each language at a time.

What we are going to show below is a graphic summary of the classification of each verb’s meanings in each language by decomposing it in terms of the hypothetical underlying syntactic patterns. We will present a selected sample of our analyses, consisting of the six pairs of verbs: *correr/correre* (approximately run), *bater/battere* (approximately beat, hit, knock), *prendere* (approximately arrest)/*prendere* (approximately get hold of), *ordenar/ordinare* (approximately order), *mancare* (approximately limp)/*mancare* (approximately miss), *soar/suonare* (approximately sound, ring, play).

3.1. *Correr/correre*

**TABLE 1: correr/correre**

<table>
<thead>
<tr>
<th>Syntactic structures</th>
<th>Italian</th>
<th>Portuguese</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v</td>
<td></td>
<td>La tartaruga correva</td>
</tr>
<tr>
<td>v</td>
<td></td>
<td>A tartaruga corria</td>
</tr>
<tr>
<td>√jump</td>
<td></td>
<td>The turtle ran</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>b.</strong></td>
<td></td>
<td>Angelo Panucci ha</td>
</tr>
<tr>
<td>v</td>
<td></td>
<td>corso la maratona</td>
</tr>
<tr>
<td>v</td>
<td></td>
<td>O Alexandre correu a</td>
</tr>
<tr>
<td>v</td>
<td></td>
<td>maratona</td>
</tr>
<tr>
<td>√bake</td>
<td></td>
<td>...ran the marathon</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syntactic structures</td>
<td>Italian</td>
<td>Portuguese</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------</td>
<td>------------</td>
</tr>
</tbody>
</table>
| c. & v & Vst & the door & Vst & open | XXXXXXXXXX | Os alunos correram um abaixo-assinado  
The students promoted a petition |
|                      |         | O cachorro correu o gato  
The dog chased the cat away |
| d. & v & V & v & V & R & put & the book & on & th & Correr ai ripari  
Try to fix it |
|                      |         | Correr o mundo todo  
Run the world |
|                      |         | Ela correu as mãos pelo cabelo  
Run her hand through her hair |
|                      |         | O euro corre na Europa  
The Euro circulates in Europe |
| f. & v & V & v & V & bake & John & appl & a cake | Mi corre l’obbligo di avvertirti  
It is my duty to warn you | XXXXXXXX |
The initial result of the \textit{correr/correre} analysis is that five of the possible structures were used, and only three by both languages. Italian does not make use of pattern (c) and Portuguese does not make use of pattern (f). The shared patterns were (a), (b) and (d), which are varieties of (a). It is important to note that even when the Italian and Portuguese cells are both used, as in (d), they are not used identically: the use of \textit{\sqrt{corr}}-applied to ‘run one’s hand through one’s hair’ is absent in Italian. On the other hand, the application of pattern (d) in \textit{correre ai ripari} to refer to ‘fixing misunderstandings or wrongdoings’ is not made by speakers of Portuguese. To summarize these findings: both languages use more than one construction; semantic contrasts between one cell and the other are similar in both languages; in addition to the meaning purely derived from the syntactic pattern we find the application of the pattern in one or the other language to some specific way of focusing world-cognition. The cognition-and-language interface is open to alternatives that guide the options of world-cognition-focusing appropriate for the use of a construction. This particular interface makes languages differ in the contextual use of verbs.

One important syntactic difference between Italian and Portuguese is being omitted in table 1 and the whole paper: in the past perfect Italian may have both \textit{avere} and \textit{essere} as auxiliaries and \textit{correre} may merge with both: \textit{Piero è corso a casa; Piero ha corso dietro al treno}. In this paper we do not have the space to compare the two languages along this syntactic parameter.
### 3.2. *Bater/battere*

**TABLE 2: bater/ battere**

<table>
<thead>
<tr>
<th>Syntactic structures</th>
<th>Italian</th>
<th>Portuguese</th>
</tr>
</thead>
</table>
| **a.** | ![Diagram](attachment:diagram.png) | *La porta batte*  
*The door slams*  
*XXX********* | *A porta bate*  
*The door slams*  
*XXX********* |
| | | *Essa conta não bate*  
*This account does not match*  
*XXX********* | *Eu bati*  
*I finished the game*  
*XXX********* |
| **b.** | ![Diagram](attachment:diagram.png) | *La giornalista ha battuto il testo*  
*The journalist typed the text*  
*XXX********* | *A jornalista bateu o texto*  
*Bater foto*  
*Take a picture*  
*XXX********* |
| **c.** | ![Diagram](attachment:diagram.png) | *Ha battuto la porta*  
*He slammed the door*  
*XXX********* | *Ele bateu a porta*  
*He slammed the door*  
*XXX********* |
<table>
<thead>
<tr>
<th>Syntactic structures</th>
<th>Italian</th>
<th>Portuguese</th>
</tr>
</thead>
<tbody>
<tr>
<td>d.</td>
<td>La pioggia batte sui vetri&lt;br&gt;The rain hits the window pane&lt;br&gt;La polizia ha battuto la zona&lt;br&gt;The police covered all that area</td>
<td>A chuva bate na vidraça&lt;br&gt;The rain hits the window pane&lt;br&gt;A polícia bateu toda aquela área&lt;br&gt;The police covered all that area</td>
</tr>
<tr>
<td>f.</td>
<td>Quella top si batte per le donne&lt;br&gt;That top model defends feminist causes</td>
<td>Aquela modelo se bate pelas mulheres&lt;br&gt;That top model defends feminist causes</td>
</tr>
</tbody>
</table>

The pair *bater/battere* presents a total formal parallelism between the two languages. Five patterns are made use of in both languages, with faithful translation correspondences in all of them. In spite of this regularity, in a way similar to the one found in *correr/correre*, each one of the two languages took different profit of each pattern. Structure (a) is used in Portuguese to focus the aspects of ‘successful arithmetical calculation’ and ‘game card winning’, which are named in Italian by means of other concepts related to them. Vice-versa, the verb *battere* is fit in (c) to focus ‘eye blinking’ only in Italian. Structure (d) is shared for
several types of ‘beatings’ and ‘poundings’ but not for ‘nail poundings’ and ‘children hittings’ in Italian.

3.3. *Prender/prendere*

**TABLE 3: prender/prendere**

<table>
<thead>
<tr>
<th>Syntactic structures</th>
<th>Prendere</th>
<th>Prender</th>
</tr>
</thead>
</table>
| d.                   | Prendere questa critica in considerazione  
                      *Take this criticism into consideration* | XXXXXXXXX |
|                      | Prendere questa critica in considerazione  
                      *Take this criticism into consideration* | XXXXXXXXX |
| b.                   | La casa ha preso fuoco  
                      *The house took fire* | XXXXXXXXX |
|                      | I carabinieri l’hanno preso  
                      *The guards grabbed him* | XXXXXXXXX |
| e.                   | Gli hanno preso la bicicletta  
                      *His bike was stolen* | XXXXXXXXX |
The phonological pair *prender/prendere* shows a total pattern dissociation between the two languages. Concomitantly, in no case can they be translated from one to the other language by the phonologically identical root. Of course: no syntactic sharing, no semantic sharing. Syntax is really very strong! And the two verbs don’t “count” as the “same” verb to bilingual speakers.

Since Portuguese and Italian have a common historical ancestor language, it is necessarily the case to suppose that some historical change happened. For this pair, Italian is the more conservative. The deviance found in Portuguese may be described as having been caused by a misreading of an originally (b) structure being read as a (c) structure. An old generation speaker says *Paulo prendeu Pedro* having in mind that ‘Paul grabbed Peter’, but a young speaker takes it as a stative sentence of structure (c) in which Peter’s final state is an irreversible state of ‘juridical grabbingness’, that is, arrest.
### 3.4. **Ordenar/ordinare**

**TABLE 4: ordenar/ordinare**

<table>
<thead>
<tr>
<th>Syntactic structures</th>
<th>Ordinare</th>
<th>Ordenar</th>
</tr>
</thead>
<tbody>
<tr>
<td>d.</td>
<td><img src="image" alt="Tree" /></td>
<td>Ordinare le tavole <em>set the tables</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Il Papa ha ordinato un vescovo cinese</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>The Pope ordained a Chinese bishop</em></td>
</tr>
<tr>
<td>b.</td>
<td><img src="image" alt="Tree" /></td>
<td>Il generale ha ordinato la ritirata delle sue truppe</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>The general ordered the army's withdrawal</em></td>
</tr>
<tr>
<td>f.</td>
<td><img src="image" alt="Tree" /></td>
<td>Il medico mi ha ordinato una purga</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>The doctor prescribed me a purge</em></td>
</tr>
</tbody>
</table>

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134
The pair ordenar/ordinare inherits the polysemy of the noun ordem/ordine. It may mean create order in the physical (or mental) space, produce a command, include someone in a religious order.

Both languages make use of the patterns (b) and (d), but only Italian also makes use of the applicative constructions (e) and (f). So, depending on the pattern of insertion, the Italian verb may mean ‘put in order’, ‘ordain’, ‘command’, ‘prescribe’, ‘demand’. The picture that is gaining shape is one in which semantic width results from how many syntactic patterns are employed.

3.5. Mancar/mancare

TABLE 5: mancar/mancare
Portuguese and Italian forms of *mancar/mancare* are in complementary distribution as to syntactic patterns. A total divorce occurred in this verb. The Italian verb *mancare*, meaning ‘miss’, fits patterns (c), (d) and (e), and is the more similar to Latin. The Portuguese homonym fits (a), and means ‘to limp’. An interesting question to pose is: what was formed first, ‘miss’ or ‘limp’? Note that the syntactic construction *mancar da perna* is still in use. The most plausible hypothesis is that in this context a language learner misunderstands ‘missing’ as ‘limping’ by restricting the more general ‘failure’ concept to a more restricted concept of ‘leg failure’.
### 3.6. Soar/suonare

**TABLE 6: soar/ suonare**

<table>
<thead>
<tr>
<th>Syntactic structures</th>
<th>Italian</th>
<th>Portuguese</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a.</strong></td>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>v</td>
<td>La campana ha suonato</td>
<td>O sino suonou</td>
</tr>
<tr>
<td></td>
<td>The bell rang</td>
<td>The bell rang</td>
</tr>
<tr>
<td>v</td>
<td></td>
<td></td>
</tr>
<tr>
<td>√jump</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>b.</strong></td>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>v</td>
<td>La campana ha suonato mezzanotte</td>
<td>O sino soon meia-noite</td>
</tr>
<tr>
<td></td>
<td>The bell rang midnight</td>
<td>The bell rang midnight</td>
</tr>
<tr>
<td>v</td>
<td></td>
<td></td>
</tr>
<tr>
<td>v</td>
<td></td>
<td></td>
</tr>
<tr>
<td>the cake</td>
<td></td>
<td></td>
</tr>
<tr>
<td>v</td>
<td></td>
<td></td>
</tr>
<tr>
<td>√bake</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>c.</strong></td>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>v</td>
<td>Le due note sono suonate insieme</td>
<td>As duas notas soaram</td>
</tr>
<tr>
<td></td>
<td>The two notes rang</td>
<td>juntas</td>
</tr>
<tr>
<td></td>
<td>together</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>v</td>
<td>Le barche hanno suonato</td>
<td>Os barcos soaram as</td>
</tr>
<tr>
<td></td>
<td>le sirene</td>
<td>sirenes</td>
</tr>
<tr>
<td>v</td>
<td></td>
<td></td>
</tr>
<tr>
<td>the door</td>
<td></td>
<td></td>
</tr>
<tr>
<td>v</td>
<td></td>
<td></td>
</tr>
<tr>
<td>√open</td>
<td></td>
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<td></td>
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</tbody>
</table>
The pair *soar/suonare* is shared by the two languages in a wide range of syntactic structures: both languages show this root in the intransitive construction (a). In the transitive (b) the construction is shared for the sub-case of direct object meaning ‘hours of the day’, but only Italian makes use of the contexts in which the direct object is a DP which refers to a musical instrument or a melody. In these sub-cases Portuguese makes use of the verb *tocar* (play): *tocar piano, tocar Beethoven*. For structures (c), (d) and (f) the two languages are identical in their use of this root.
Conclusion

In summary, the interface data for Italian-Portuguese cognate verbs in this small sample are not uniform. We found three essentially different configurations of correspondences:

(i) all cells are used in both languages (bater/battere and soar/suonare);
(ii) some cells are shared and others are not (correr/correre and ordenar/ordinare);
(iii) homonym forms with no sharing of cells at all (prendere/prendere and mancar/mancare).

Additionally in groups (i) and (ii) it happens very often that the two languages differ in terms of the profit taken of a given pattern for certain semantic types of nouns or non compositional uses. For example only Italian makes use of correre in correre ai ripari to express the notion of ‘trying to fix something’ and only Portuguese makes use of bater in essa conta não bate to express the notion of ‘the account does not match’. Of course the lags do not mean a lack of capacity to describe a given situation. There is a Portuguese translation for correre ai ripari and an Italian translation for essa conta não bate, but, interestingly, the good translations don’t follow the same conceptual path. At this point we are getting into the boundary between the modules of language and those of cognition, which we linguists see as non isomorphic.

We should now be ready to make a judgment and a decision about the relative adequacy between data and theory. The prediction of projectionist (lexicalist) theory is that internal properties of the lexical nucleus must logically and derivationally precede the syntactic configuration. According to this prediction the range of meaning of a given verb should not be very wide since it should obey lexically imposed restrictions. However the findings in groups (i) and (ii) do not favor this hypothesis.
The modularity of constructionist theory predicts the independence between syntactic patterns and vocabulary pieces. The predictable situation is that meaningless roots can fit in any possible syntactic pattern, and get a skeletal meaning from the pattern and an additional cognitive content, negotiated. And so it is: in our comparative work the predominant situation is that verbs are polysemous, which is what one finds in all groups. Then, the best theory is the constructionist.

References


