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

Miriam LEMLE
Docente do Programa de Pós Graduação em Linguística da UFRJ

Isabella Lopes PEDERNEIRA
Doutoranda do Programa de Pós Graduação em Linguística da UFRJ

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

Argument structure. Cognate verbs in Italian and Portuguese. Syntax-semantic interface. Syntactic patterns.

PALAVRAS-CHAVE

Estrutura argumental. Interface sintaxe-semântica. Padrões sintáticos. Verbos cognatos em italiano e português.

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 √*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 colou o selo no envelope com saliva* (*she*

attached the stamp on the envelope with saliva) is acceptable; *ela esmaltou 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 verb›s 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.

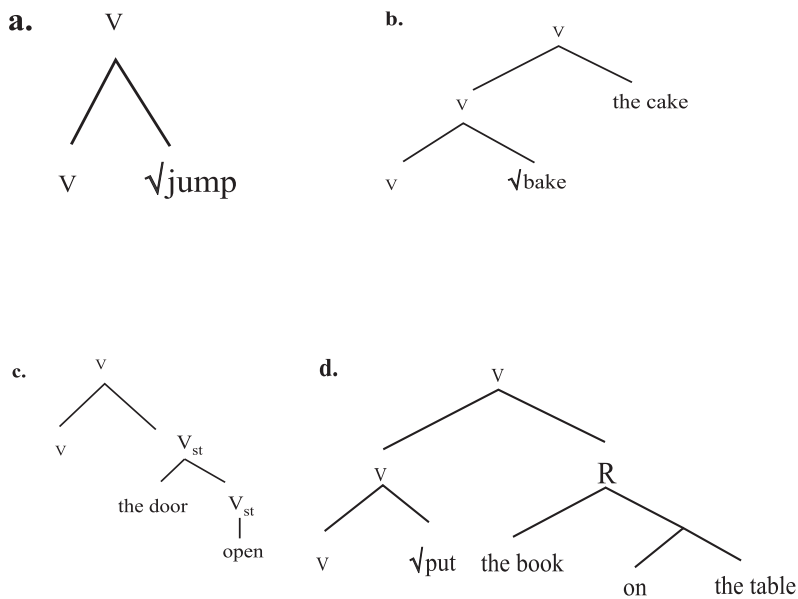
But not only this: the second language data provided other semantic subcategorization possibilities for cells in the table. The total Italian-Portuguese occurrences of a given root occupied a larger space in the table than each one of the roots of each language by itself. This fact affects the mapping 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.

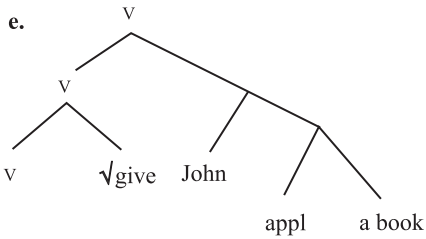
As a result of this bilingual analysis of Italian and Portuguese verbs we will hopefully be able to see whether the data favor the projectionist or the constructionist theoretical predictions: if there is a concentration of contextual use per roots, the projectionist bit is the winner, and conversely, if each verb is licensed in multiple syntactic contexts with consequent rather regular meaning changes, then the constructionist theory will acquire more value.

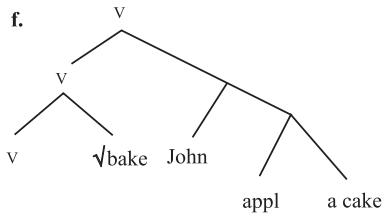
The essential theoretical assumption on the basis of this work is that there is a small number of syntactic patterns of very restricted types containing a ‹little -v› where bare roots, nouns or adjectives can be inserted, with different non-compositional meanings being possibly negociated in each of 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:







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).

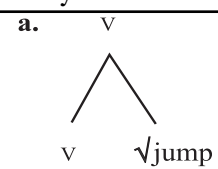
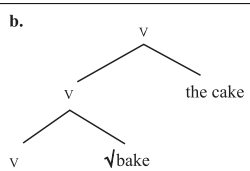
3. Ranges of readings in cognate verbs

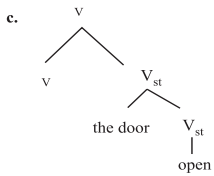
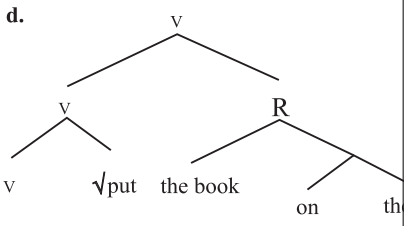
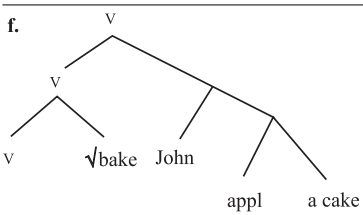
The historical relationship between Romance languages is so close that in any pair of languages there are innumerous verbs with phonologically almost identical roots, and also a big range of similar or identical readings. This similarity is clearly perceived by bilingual speakers, who 'believe' it to 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), *prender* (approximately arrest)/*prendere* (approximately get hold of), *ordenar/ordinare* (approximately order), *mancar* (approximately limp)/*mancare* (approximately miss), *soar/suonare* (approximately sound, ring, play).

3.1. *Correr/correre*

TABLE 1: *correr/correre*

Syntactic structures	Italian	Portuguese
a. 	La tartaruga correva *The turtle ran*	A tartaruga corria *The turtle ran*
b. 	Angelo Panucci ha corso la maratona *...ran the marathon*	O Alexandre correu a maratona *...ran the marathon*

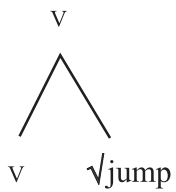
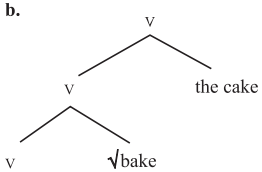
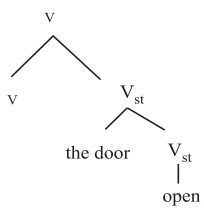
Syntactic structures	Italian	Portuguese
c. 	XXXXXXXXX XXXXXXXXX	Os alunos correram um abaixo-assinado *The students promoted a petition* O cachorro correu o gato *The dog chased the cat away*
d. 	Il fiume corre al mare *The river runs to the sea* Correre ai ripari *Try to fix it* Corse tutto il mondo *Run the world* XXXXXXXXX XXXXXXXXX	O rio corre para o mar *The river runs to the sea* XXXXXXXX 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. 	Mi corre l'obbligo di avvertirti *It is my duty to warn you*	XXXXXXX

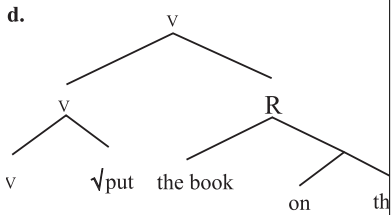
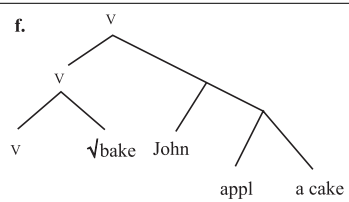
The initial result of the *correr/correre* analysis is that five of the possible structures were used, and only three by both languages. Italian does not make use of pattern (c) and Portuguese does not make use of pattern (f). The shared patterns were (a), (b) and (d), which are varieties of (a). It 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 √*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 *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 *avere* and *essere* as auxiliaries and *correre* may merge with both: *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*

Syntactic structures	Italian	Portuguese
a. 	La porta batte *The door slams* XXXXXXXXX XXXXXXXXX	A porta bate *The door slams* Essa conta não bate *This account does not match* Eu bati *I finished the game*
b. 	La giornalista ha battuto il testo *The jornalist typed the text* XXXXXXXXX	A jornalista bateu o texto *The jornalist typed the text* Bater foto *Take a picture*
c. 	Ha battuto la porta *He slammed the door* Matteo batteva gli occhi *Mattew blinked* L'Europa batte i denti *Europe is shivering from the cold*	Ele bateu a porta *He slammed the door* *XXXXXXX* A Europa bate os dentes *Europe is shivering from the cold*

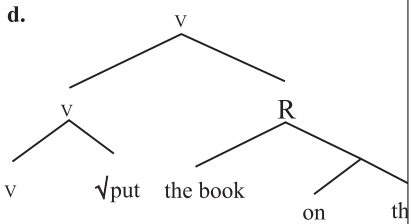
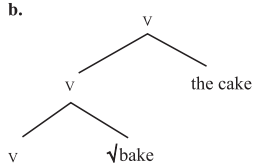
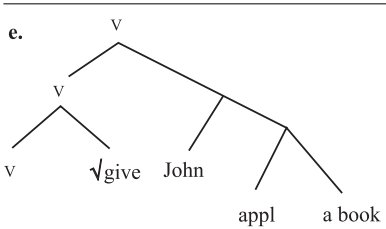
Syntactic structures	Italian	Portuguese
d. 	*La pioggia batte sui vetri* *The rain hits the window pane* *La polizia ha battuto la zona* *The police covered all that area* *XXXXXXXXX* *XXXXXXXXX*	A chuva bate na vidraça *The rain hits the window pane* A polícia bateu toda aquela área *The police covered all that area* João bateu um prego na parede *John pounded a nail in the wall* Ele bateu nas crianças *He hit the children*
f. 	Quella top si batte per le donne *That top model defends feminist causes*	Aquela modelo se bate pelas mulheres *That top model defends feminist causes*

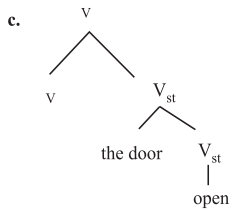
The pair *bater/battere* presents a total formal parallelism between the two languages. Five patterns are made use of in both languages, with faithful translation correspondences in all of them. In spite of this regularity, in a way similar to the one found in *correr/correre*, each one of the two languages 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*

Syntactic structures	Prendere	Prender
d. 	Prendere questa critica in considerazione *Take this criticism into consideration*	XXXXXXX
b. 	La casa ha preso fuoco *The house took fire* I carabinieri l'hanno preso *The guards grabbed him*	XXXXXXX XXXXXXX
e. 	Gli hanno preso la bicicletta *His bike was stolen*	XXXXXXX

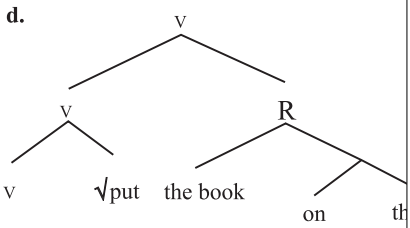
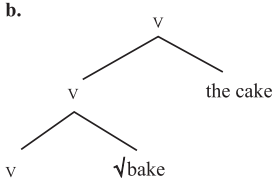
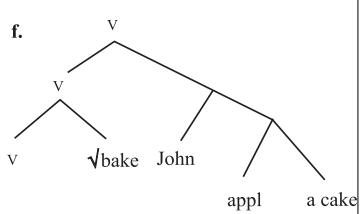
c. 	XXXXXXXXX XXXXXXXXX	A polícia prendeu os marginais. *The Police arrested the thieves.* Seus olhos verdes prendem corações. *Her green eyes are attractive.*

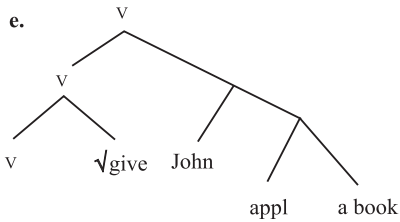
The phonological pair *prender/prendere* shows a total pattern dissociation between the two languages. Concomitantly, in no case can they be translated from one to the other language by the phonologically identical root. Of course: no syntactic sharing, no semantic sharing. Syntax is really very strong! 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*

Syntactic structures	Ordinare	Ordenar
d. 	Ordinare le tavole *set the tables* Il Papa ha ordinato un vescovo cinese *The Pope ordained a Chinese bishop*	Ordenar os talheres *set the tables* O Papa ordenou um bispo chinês *The Pope ordained a Chinese bishop*
b. 	Il generale ha ordinato la ritirata delle sue truppe *The general ordered the army's withdrawal*	O general ordenou a retirada da tropa *The general ordered the army's withdrawal*
f. 	Il medico mi ha ordinato una purga *The doctor prescribed me a purge*	XXXXXX

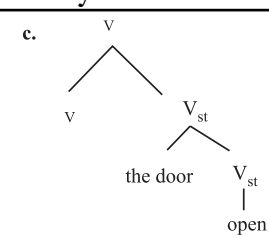
Syntactic structures	Ordinare	Ordenar
e. 	Ho ordinato una birra *I ordered a beer*	XXXXXX

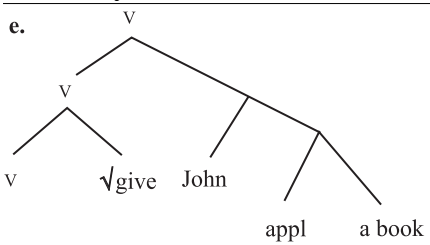
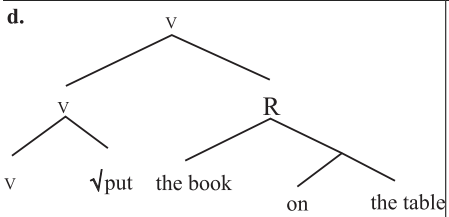
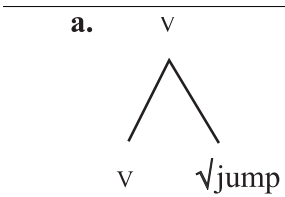
The pair ordenar/ordinare inherits the polysemy of the noun *ordem/ordine*. It may mean create order in the physical (or mental) space, produce a command, include someone in a religious order.

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*

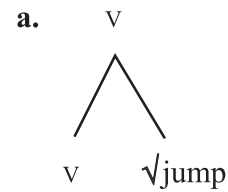
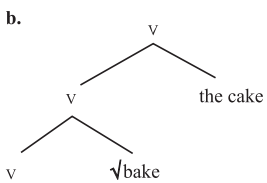
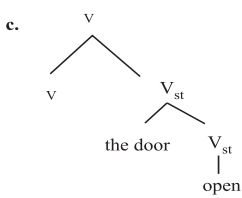
Syntactic structure	Mancare	Mancar
c. 	I ragazzi sono mancati alla riunione *The boys missed the meeting*	XXXXXXXX

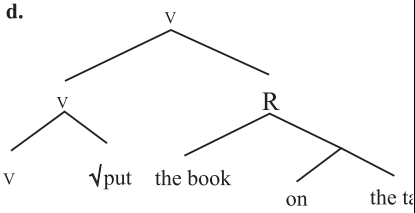
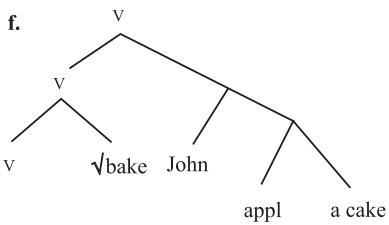
Syntactic structure	Mancare	Mancar
e. 	Mi sono mancati dieci Euro per comprare le scarpe. *I was short of ten euros to buy those shoes*	XXXXXXXX
d. 	Hai mancato di tatto. *You were unkind*	XXXXXXXX
a. 	XXXXXXXX	Ele manca. *He limps*

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*

Syntactic structures	Italian	Portuguese
a. 	*La campana ha suonato* *The bell rang*	*O sino soou* *The bell rang*
b. 	*La campana ha suonato mezzanotte* *The bell rang midnight* *Piero suona il pianoforte* *Peter plays the piano* *La radio suonava Beethoven* *The radio was playing Beethoven*	*O sino soou meia-noite* *The bell rang midnight* *XXXXXXX* *XXXXXXX*
c. 	*Le due note sono suonate insieme* *The two notes rang together* *Le barche hanno suonato le sirene* *The boats rang the sirens*	*As duas notas soaram juntas* *The two notes rang together* *Os barcos soaram as sirenes* *The boats rang the sirens*

Syntactic structures	Italian	Portuguese
d. 	*Questa frase suona strana* *This sentence rings strangely*	*Esta frase soa estranha* *This sentence rings strangely*
f. 	*Questa storia mi suona strana* *This story rings strangely to me*	*Esta estória me soa estranha* *This story rings strangely to me*

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 (*prender/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

BORER, H. "**Exo-skeletal vs. endo-skeletal explanations**: syntactic projections and the lexicon". In: Polinsky, M. and J. Moore, eds. Explanation in Linguistic Theory. Stanford: CSLI, 2003.

CHOMSKY, N. **Aspects of the theory of syntax**. Cambridge, Ma: The MIT Press, 1965.

HALE, K.; KEYSER, S. J. **On argument structure and the lexical expression of grammatical relations.** In: Hale, K.; Keyser, S. J. (org.). The view from Building 20. Essays in honor of Sylvain Bromberger. Cambridge, MA: MIT Press, 1993. p. 53-109.

HALLE, M.; MARANTZ, A. **'Distributed Morphology and the Pieces of Inflection.'** In: Hale, K.; Keyser, S. J. (org.). The view from Building 20. Essays in honor of Sylvain Bromberger. Cambridge, MA: MIT Press, 1993. p. 111-176.

HARLEY, H.; NOYER, R. **State-of-the-article**: Distributed Morphology. GLOT International, v. 4, n. 4, p 3-9, 1999.

MARANTZ, A. **Words**. In: WCCFL XX. Handout, 2001. Disponível em: http://web.mit.edu/marantz/Public/EALING/WordsWCCFL.pdf. Acesso em: 10 set. 2005.

_____. **Rederived Generalizations**. Handout, 2005. Disponível em: http://ealing.cognition.ens.fr/ealing2010/handouts/KoopmanReadings/MarantzReDeriving.pdf. Acesso em: 5 ago. 2007.

PYLKKÄNEN, L. **What Applicative Heads Apply To.** In: Minnick, M.; Williams, A.; Kaiser, E. (eds.), Proceedings of the 24th Annual Penn Linguistics Colloquium. UPenn Working Papers in Linguistics, 2000.

PYLKKÄNEN, L.; MCELREE, B. **The syntax-semantics interface**: On-line composition of sentence meaning. In: Traxler, M. & Gernsbacher, M.A. (eds.). Handbook of Psycholinguistics. New York: Elsevier; 2006. p. 537-577.