A Proposal for a Portuguese Dictionary of Roots and Affixes

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Recent studies in lexical theory (Cruse 1979, 1986) have contributed to an understanding of the role affixes (prefixes and suffixes) play in word formation in natural languages. This paper will deal in particular with prefixation in Portuguese and put forward a proposal for the elaboration of a Portuguese Dictionary of Roots and Affixes.

The paper is divided into four parts. In the first part I will outline the types of prefixation processes in this language and discuss the role prefixes play in word-formation in Portuguese. In the second part I intend to describe recent developments in Luso-Brazilian lexicography that have contributed to the proposal made here for a Dictionary of Roots and Affixes of Portuguese. In the third part I shall describe the different parts of the Dictionary; in the fourth section, I shall put forward arguments for the value of such a project.

An Overview of Portuguese Word-Formation

As far as Portuguese is concerned, recent studies in the field of morphology and lexical semantics (Basilio 1987) have revealed important facts about word-formation in this language. Portuguese has a series of prefixes, namely a, en-, es-, de-, des- in addition to a few others that contribute to word-formation in the language. An example of this process is shown in (1):

(1) [\texttt{\texttt{a-en}\texttt{-}} \texttt{\texttt{des-}} + \texttt{\texttt{a-}} \texttt{des-} + \texttt{en-}] \rightarrow \texttt{\texttt{terr(a)}} \texttt{\texttt{[earth, land']}}

Portuguese prefixes can be roughly grouped, based in part, on the work of Marchand (1973), into the following classes: (i) reversives, (ii) privatives, (iii) ablatives, and (iv) negatives. Des- as a reversive prefix precedes verbs, deadjectival and denominal verbs as shown in (2):

(2) desligar \rightarrow ligar
    'to turn off' \rightarrow 'to turn on'

desafear \rightarrow afear \rightarrow feio
    'to remove the ugliness' \rightarrow 'to make ugly' \rightarrow 'ugly'

desatarraxar \rightarrow atarraxar \rightarrow tarraxa
    'to unscrew' \rightarrow 'to screw' \rightarrow 'screw or twist of a screw, thread'
Constraints in the real world prevent the production of verbs that describe processes or actions that cannot be reversed. In sentence (3a) the verb *atarraxar* 'unscrew' 'unfasten' is an action that can be reversed while in (3b) the verb *amaçiar* 'to tune (up)' is not the type of action that can be reversed, for once the action is completed it cannot be undone.

(3a)

* A lâmpada foi atarraxada e depois desatarraxada pelo electricista.

'The bulb was screwed in and afterwards it was unscrewed by the electrician'

(3b)


'This motor is being tuned. *The other one is being distuned.'

*Des-* and *de-* are privative affixes and are only attached to nouns as shown in (4):

(4)

| descascar → casca; | desnatar → nata; |
| degejar → gelo; | depenar → pena; |

'to shell' 'shell' 'to skim' 'shell'

descascar → 'to shell'
degelar → 'to deice'

These privative verbs are all denominal and while some, such as *descascar* 'to shell', can have a non-prefixed form, there are no verbs *natar* and *penar* in the language. Observe the sentences in (5):

(5)

(a) *A empregada natou o leite.

'The maid creamed the milk'

(b) *A cozinheira penou a galinha.

'The cook feathered the chicken'

The prefix *des-* also functions as a negative form before verbs, adjectives, and nouns. Note the items in (6):

(6)

* desmerecer, desalmado, desleal
  'not to deserve, soulless, disloyal'

There are also two ablative prefixes, that is, *a-* *en-.jem* which play a part in the formation of denominal verbs as seen in (7):

(7)

| acurrular → curral |
| encurrular → curral |
| 'to put it corral' 'corral' |
| abornalar → bornal |
| enbornalar → bornal |
| 'to put into a sack' 'sack' |
Cabello (1986), basing her data on the NOVO Dicionário da Língua Portuguesa (NDLP) (Ferreira, 1975) points to the existence in Portuguese of two verbal forms, one with a prefix and one without. A representative selection from Cabello’s data is observed in (8):

(8)  
enraivecer/raivecer 'to get angry', afadigar/fadigar 'to tire, fatigue', esvaziar/vazar 'to empty'  

Schmitz (1986) lists a series of denominal verbs with and without prefixes as well as a limited number of deadjectival verbs with and without a prefix. These forms are listed in (9)-(10):

(9)  
abocar/bocar 'to snap, catch with the mouth', acampar/campar 'to camp', acortinar/cortinar 'to curtain, provide with a curtain', amartelar/martelar 'to hammer', aparafusar/parafusar 'to bolt, fasten with a screw', apedrar/pedrar 'to throw stones', arrugar/rugar 'to wrinkle', atarraxar/tarraxar 'to fasten, screw or rivet together'

(10)  
amornar/mornar 'to warm up', 'to make luke-warm' aquietar/quietar 'to quiet, appear calm'.

As far as adjectives are concerned, the language attests to a number of deadjectival verbs, some without prefixes, and many with prefixes as well as a varied suffixal morphology. Chart 1 below points to a variety of deadjectival forms:

Chart 1: Occurrence of Deadjectival Verbs of Color in Portuguese

<table>
<thead>
<tr>
<th>branco 'white'</th>
<th>cinza 'gray'</th>
<th>negro 'black'</th>
<th>verde 'green'</th>
<th>vermelho 'red'</th>
</tr>
</thead>
<tbody>
<tr>
<td>branquejar</td>
<td>cinzar</td>
<td>energrecer</td>
<td>verdear</td>
<td>vermelhar</td>
</tr>
<tr>
<td>branquear</td>
<td></td>
<td>anegrar</td>
<td>verdejar</td>
<td>vermelhejar</td>
</tr>
<tr>
<td>embrancar</td>
<td></td>
<td>enverdejar</td>
<td>enverdeecer</td>
<td>envermelhejar</td>
</tr>
<tr>
<td>embranquear</td>
<td></td>
<td></td>
<td>envermelhar</td>
<td>envermelhecer</td>
</tr>
<tr>
<td>'whiten, make white'</td>
<td>'make gray, turn ashen'</td>
<td>'blacken'</td>
<td>'make green'</td>
<td>'redden, make red'</td>
</tr>
</tbody>
</table>

Source: NDLP (1975)

There has been in recent years some debate about the so-called parasynthetic derivations among students of Luso-Brazilian linguistics, Cabello (1986), Azevedo Furquim (1975). Some of this interest in Portuguese morphology has influenced specialists in the field of lexicography; Luso-Brazilian lexicography, however, has not enjoyed the development and innovation which characterises French, Spanish, German or English dictionary-making traditions. In the following section, I shall address myself to some recent innovations in Luso-Brazilian lexicography which have led me to propose a root dictionary for Portuguese.
Some Innovations in Luso-Brazilian Lexicography

With the exception of Goes (1930) Dicionário de Afixos e Desinências, little attention has been paid to the study of affixes and roots or to their role in word-formation in Portuguese dictionaries. In recent years, however, thanks to the publication of the first edition of a standard desk dictionary, NDLP (1975), and also the revised and augmented second edition of this dictionary (1986), some attention has been finally given to the morphology of Portuguese. For example, the entry for the word atarraxar⁷ 'to fasten, fix' contains word-formation data for the user in the form of a feature as shown in (11):

\[(11)\]

\[
\text{atarraxar} [\text{de a-} + \text{tarraxa} + \text{ar}]  \\
1. \text{apertar com tarraxa}  \\
\hspace{1cm}\text{parafusar}  \\
2. \text{prender, unir, ligar}  \\
\hspace{1cm}\text{fortemente}
\]

Source: NDLP (1986: 153)

Another important development in Portuguese Lexicography is marked by the publication of the Dicionário Etimológico da Língua Portuguesa by Cunha (1982). This dictionary, in addition to pertinent etymological data about Portuguese words, presents information about word-formation processes with the help of arrows and dots to illustrate the components of specific words. In (12) the treatment of three items from this dictionary is shown:

\[(12)\]

(a) atarraxar \rightarrow \text{tarraxa}  \\
\hspace{1cm}'screw'  \\
(b) en-camp-ação, -amento, -ar \rightarrow \text{campo}  \\
\hspace{1cm}'taking over, camping, to camp'  \\
(c) encañifar \rightarrow \text{cafife}  \\
\hspace{1cm}'to embarrass, bother, inhibit'  \\
\hspace{1cm}'series of mishaps'


Another rather innovative dictionary is the Dicionário Morfológico da Língua Portuguesa by Heckler et al. (1984) which provides its readers with a description of suffixes and prefixes as well as the distribution of frequency of occurrence of the parts of speech in which the affixes occur. In (13) a partial description of the treatment of the word brecha 'rupture' 'opening' is presented:

\[(13)\]

\begin{align*}
1. \text{brech-a (1)} & \quad \text{Brecha} \quad \text{S}  \\
2. \text{brech-a (2)} & \quad \text{S}  \\
3. \text{brech-ad-o} & \quad \text{A}  \\
4. \text{brech-ão} & \quad \text{S}  \\
5. \text{em-brech-ad-o} & \quad \text{S}  \\
6. \text{em-brech-a-r} & \quad \text{V}
\end{align*}
Although the above information shows the recent changes in the field of Portuguese dictionaries, there is need for still another type of dictionary. In the following section, I shall attempt to describe the project.

The Organization of a Root and Affix Dictionary of Portuguese

Before I set out the different parts of the Dictionary, I want to clarify what I mean by the term 'root'. Alternate terms that are synonymous with 'root', as employed in this paper, are 'base' or 'morphological stem'. The words campo 'field', terra 'earth', 'land', and palha 'straw' are considered roots. To these roots Portuguese adds, as I have indicated in (1) above, an array of prefixes and suffixes. Comparing the lexical item descampar 'to decamp' with destruir 'to destroy', it is important to observe that the former contains the productive prefix des- and the 'root' campo followed by the infinitive suffix -a(r), while the later is not a root, for it cannot be segmented into des- and *truir, as the form destruir comes directly into the language from Latin destruère (Cunha 1982: 257).

The proposed dictionary follows the format of Heckler et al. (1984) which I described above. In this dictionary project roots are presented first in alphabetical order followed by all the affixes that occur with them. This dictionary goes one step further than Heckler et al. (1984) by providing the meanings of the root and the prefixed forms. The value of the dictionary for the user lies in the fact that he/she can see at one glance all the combinatory possibilities of a word; this is not possible in the case of the standard desk dictionary (NDLP) or the etymological dictionary (Cunha 1982), where the reader would have to consult many entries before he/she could be certain of all the cooccurrences of affixes with a specific root.
The writer envisages four major sections of the dictionary (at this stage of the project).

**Part 1**  
List of Roots and Affixes  
'Palerma-Pâlido'  

**Part 2**  
Example of a Root (Base)  
'Palha'  

**Part 3**  
Distribution of Prefixed verbs  
Denominal Verbs  

**Part 4**  
Non-segmentable Forms  
Destruir  

Part 1 of the proposed dictionary contains a list in alphabetical order of all the roots to be examined in the second part of the dictionary. In Fig. 1 below, the reader will observe numbers after each root which serve as a guide for the user to key the specific root to its detailed treatment in Part II. Observe, for example, that the root *palha* 'straw' in Fig. 1 bears the number (3); this number would help to direct the user to that part of the dictionary where the root would be examined exhaustively.

**Figure 1**

In Part 2 of the dictionary each root is presented with the range of prefixes that occur with it. The meanings of each prefixed form is provided to help the
user/learner in his/her study of the language. In Fig. 2 below I have taken, for the purposes of illustration, three headwords from the NDLP and have placed them together under the root headword PALHA 'straw'.

**PARTE 2: Raízes e Prefixos**

_Dicionário de Raízes e Prefixos de Português_

**palha**


  despalhar, empalhar, espalhar → palha


**Figure 2**

Fig. 2 above contains just a partial listing of what would occur under the headword PALHA 'straw'. In a complete treatment, all the affixed forms with PALHA as root (base) would be listed in this part of the dictionary. Turning back to Figure 1 the reader will observe that all the items to the right of palha would be presented in detail in Figure 2.

Part 3 of the dictionary provides the reader with charts which show the distribution of the roots with specific prefixes in the language. Fig 3 below, for example, shows that the noun RUGA 'wrinkle' can be prefixed by _a-_ as in _arrugar_ 'to wrinkle' or by _en-_ as in _enrugar_ 'to wrinkle' as well as by a combination of two prefixes _des_- _a-_ and _des_- _en-_ as in _desarrugar_ 'to remove (the) wrinkles' / _desenrugar_ 'to remove (the) wrinkles'. Note also in Fig 3 that the root CAMPO 'field' is highly productive occurring with five different prefix combinations, while RUA 'street' only occurs with three.
PARTE 3: Distribuição dos Verbos Prefixados

* Distribuição dos Prefixos *a*, *en/-em*, *des*, *des- + en/em- e des- + a*- com Verbos Denominais em Português*.

<table>
<thead>
<tr>
<th>Raiz</th>
<th>a-</th>
<th>en/-em</th>
<th>des-</th>
<th>des- + en/-em-</th>
<th>des- + a-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boca</td>
<td>abocar</td>
<td>embocar</td>
<td>desbocar</td>
<td>desembocar</td>
<td>desabocar</td>
</tr>
<tr>
<td>Campo</td>
<td>acampar</td>
<td>encampar</td>
<td>descampar</td>
<td>desencampar</td>
<td>desacampar</td>
</tr>
<tr>
<td>Cara</td>
<td>-</td>
<td>encarar</td>
<td>descarar</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cavalo</td>
<td>acavalar</td>
<td>encavalar</td>
<td>-</td>
<td>desencavalar</td>
<td>desacavalar</td>
</tr>
<tr>
<td>Cortina</td>
<td>acortinar</td>
<td>encortinar</td>
<td>descortinar</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Costa</td>
<td>acostar</td>
<td>encostar</td>
<td>-</td>
<td>desencostar</td>
<td>-</td>
</tr>
<tr>
<td>Lista</td>
<td>alicantar</td>
<td>enlistar</td>
<td>-</td>
<td>desenlistar</td>
<td>desalistar</td>
</tr>
<tr>
<td>Martelo</td>
<td>amartelar</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Parafuso</td>
<td>aparafusar</td>
<td>-</td>
<td>desaparafusar</td>
<td>-</td>
<td>desaparafusar</td>
</tr>
<tr>
<td>Pedra</td>
<td>apedrar</td>
<td>empedrar</td>
<td>-</td>
<td>desempedrar</td>
<td>-</td>
</tr>
<tr>
<td>Rua</td>
<td>arruar</td>
<td>-</td>
<td>-</td>
<td>desarruar</td>
<td>-</td>
</tr>
<tr>
<td>Rua</td>
<td>arrurar</td>
<td>enrugar</td>
<td>-</td>
<td>desenrugar</td>
<td>desarrugar</td>
</tr>
<tr>
<td>Tarraxa</td>
<td>atarraxar</td>
<td>entarraxar</td>
<td>-</td>
<td>desentaraxar</td>
<td>desatarraxar</td>
</tr>
<tr>
<td>Terra</td>
<td>aterror</td>
<td>enterrar</td>
<td>desterrar</td>
<td>desenterrar</td>
<td>desaterrar</td>
</tr>
</tbody>
</table>

* Sources: NOVO DIONÁRIO DA LÍNGUA PORTUGUESA (1975) e DIONÁRIO ETIMOLÓGICO DA LÍNGUA PORTUGUESA (1982).

Figure 3

The fourth part of the dictionary would contain listings of those lexical items that are non-segmental coming directly into the language from Latin. I list below a sampling of the items that would be assigned to this part of the dictionary.

destruição
destruidor
destruir
destrutível
in- + destrutível
destrutivo
destrutor

Figure 4

Having outlined the organization of the Dictionary of Roots and Affixes, I shall address myself, in the fourth part of this paper, to the possible contributions of this project for Luso-Brazilian lexicography and the field in general.
Possible Contributions of the Proposed Dictionary

A root dictionary of Portuguese and no doubt of other Romance languages would, I feel, contribute to the morphological description of these languages. Comparative data on affixation similar to the work of Marchand (1969, 1973) would be useful for contrastive studies. As far as Portuguese is concerned, description of word-formation processes in this language would contribute to (i) the identification of roots that (tend to) take only suffixes, (ii) identification of roots that take both prefixes and suffixes, and (iii) identification of roots that (tend to) permit prefixes only. In this way, the dictionary could provide linguistic descriptions useful for the elaboration of possible theories of lexical semantics.

The dictionary under consideration could also, I contend, contribute to the improvement of Luso-Brazilian dictionaries in general. In Fig. 2 in the third part of this paper one can observe that the NDLP does not offer a model sentence for despalhar 'to remove straw from'; in addition, only one model sentence is provided for empalhar 'to stuff (animals) with straw', 'to upholster' while five out of the six conceptions of espalhar 'to scatter', 'to disperse' have model sentences. In the Dictionary I propose that every entry should have a model sentence.

If one examines in detail the NDLP, one observes the presence of one set of deadjectival verbs with competing forms, one with a prefix and the other without (esvaziar/vaziar 'to empty') and a second set with two different prefixes (afear/enfear 'to make ugly'). In the dictionary I am proposing, linguistic fossils that are often copied from one dictionary to another would be eliminated.

Although etymological data is present in the NDLP, the Dictionary of Roots would be a good place to present the etymology of each root as well as development of metaphoric changes. In the case of the root PENCA 'bunch' as in a bunch of bananas the prefixed denominal verb despencar means 'to fall from a great height' and can refer to cars falling off cliffs or children falling from trees.

The Dictionary of Roots would also contain neologisms not found in standard dictionaries such as desembaçar 'to clean, wipe off' and desimportar 'not to matter'.

The dictionary would also be useful for students of the language who wish to identify words that are 'vernacular', that is, formed by synchronic processes of word-formation and distinguish these from those words that are of Latin origin. For example, conduzir 'to lead' and reduzir 'to reduce' are inherited directly from Latin, while desparafusar 'to unscrew' and descaroçar 'to remove the pit (seeds)' are a result of the productive native prefix des- and the roots parafuso 'screw' and caroço 'pit', 'shell' respectively.

To conclude this paper, I feel that, in addition to contributing to the linguistic description of Portuguese, this Dictionary of Roots would be of value to native speakers and advanced students of Portuguese as a foreign language. Such a dictionary would provide an opportunity for its readers to increase their awareness and knowledge of words. Students would be able to find in one place, in alphabetical order an exhaustive presentation of headwords, that is, the roots of the language with all possible affixal occurrences. If the student consulted a standard dictionary, he/she would have to look in at least six places to ascertain the occurrences of the root terra with affixes; in the type of dictionary suggested here, the user would only have to look in one place for the same information. The dictionary would also help native and foreign users to perceive relationships
between words. Fig. 5 sets out the type of word awareness the student could acquire by using the dictionary.

- estatua → estatelado 'dumbfounded', 'startled'
- panturra → empanturrado 'stuffed with food', 'arrogant'
- tâbua → entabuar 'to plank, board'; entabular, 'to board, plank'
- tavão → estabanado, 'clumsy', 'harum-scarum', 'restless'.

**Figure 5**

Following Biderman's (1984: 10) suggestion about dictionary definitions, this project could stimulate interest in rethinking standard desk-dictionary entries with respect to (a) definitions; (b) introduction of model sentences where they are absent, and inclusion of prefixed forms not currently found in the major reference dictionaries.

**Notes**

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1 In addition to these prefixes there are a few others that contribute to the formation of denominal verbs such as so- {soterrar 'to bury'); re- and per-precede verbs: refazer 'to do over', perpassar 'to pass by or through or over'.

2 In addition to the verb degelar, there exists in Portuguese verb gelar with a different meaning: 'O pudim gelou' 'The pudding jelled' 'Paulo gelou a sua familia com a decisão de largar a Faculdade' 'Paul shocked his family with the decision to quit college'. In addition to the standard form descascar there is also the variant cascar 'to shell' used by speakers of non-standard dialects.

3 There is another verb penar 'to suffer' in Portuguese. 'Eu penei para terminar aquela tarefa.' 'I suffered a great deal in completing that task.'

4 Allen (1980) remarks that "... color verbs are very likely to begin with en-" and he goes on to argue that "... so strong is the tendency toward en- that amarelecer 'to turn yellow' has developed the variant emarelecer where the root-segments am-were reinterpreted as an assimilated form of the prefix en-". In my own work on Portuguese prefixes, I have also found en-jem-to be productive but the prefix a- is also productive. Native speakers consulted in Brazil do not use emarelecer and seem to prefer amarelecer or amarelar.

5 For the Spanish linguist Menéndez-Pidal (1941: 237) parasynthesis involves the formation all at once of a new word via prefixation and suffixation: alma 'soul' > [des- + alma-
do] = desalmado 'soulless', for in this case there is no verb desalmar 'to unsoul' or almado 'souled'. Lima Coutinho (1976: 18) maintains that a word formed by a prefix and suffix separately is also a result of parasyntasis even if the result is not an original creation as in the form desalmado.

6 There is a great need, I feel, in the field of Luso-Brazilian Lexicography for a Dictionary similar to Maria Molliner's Dicionário del uso del español. Madrid: Gredos, 1973; in addition, combinatory dictionaries such as A. Mel'čuk et al. Dictionnaire explicatif et combinatoire du francois contemporain. Recherches lexico-semanticques I. Montréal: Les Presses de l'Université de Montréal, 1984; M. Benson et al., The BBI combinatory dictionary of English: A guide to word combinations. Amsterdam/Philadelphia: John Benjamins Company, 1986 do not yet exist for Portuguese.

7 Compare, for example, the treatment of morphology in Portuguese dictionaries before the publication of the NDLP (1975). Observe the difference of presentation in the Dicionário contemporâneo da língua portuguesa, ed. by Hamilton de Garcia (p. 385). "atarraxar v.tr. andar com a tarraxa para apertar, parafusar, segurar bem F. tarraxa. Compare this entry with (11) in the text.

8 The computer would indeed be essential for the rearrangement of the items found in standard dictionaries such as the NDLP. See, for example, suggestions presented by B.A. Kipfer (1985: 18: 1—4).

9 See R. Ilson (1973) 78—79 for valuable suggestions on the role of etymological data in learners' dictionaries.

10 This dictionary has a strong synchronic bias. I follow here the type of analysis presented by Andrews (1986: 221) who takes a similar position: "I will limit the data to verbal forms with separable prefixes, that is, forms such as debar, decompose, delimit will be used, while forms such as delete, devolve will be included."

References

Cited Dictionaries


Other Literature

Ilson, R. 1973, 'Etymological Information: Can it Help Our Students?' in ELT Journal 37/1 January.