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SEPTEMBER 1, 1973

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THE SURFACE STRUCTURE OF PORTUGUESE:
PLURALS AND OTHER THINGS

JOHN M. LIPSKI

1. INTRODUCTION

The investigation of a particular morphological process in a given language often necessitates the consideration of more general phenomena affecting larger segments of the language. This is amply demonstrated in the study of the pluralization process in the Romance languages, a topic which has led to a great outflow of literature in recent years, particularly within the framework of generative phonology. The inherent unity of pluralization has seemed to many to find its most natural description within the theory of generative grammar, which, by the mechanism of abstract base forms and ordered rules, apparently permits the capturing of generalizations which had escaped earlier more traditional analyses.

This paper examines recent claims offered in the description of nominal pluralization in Portuguese, in relation to more general properties exhibited by the language. The futility of restricting a linguistic analysis to a single morphological process such as pluralization has been aptly summed up by Harris (1970: 930):

Thus it is unreasonable to expect, a-priori, that just the set of singular/plural pairs of nouns and adjectives will provide a self-contained and coherent domain of any interest for the investigation of phonological processes ... it would seem to me to be of great advantage to the study of ... language in general, if the topic of 'plural formation' were permanently laid to rest, and attention devoted instead to general phonological and morphological processes of the language.

Thus, recent studies involving Portuguese pluralization qua pluralization are of little interest, other than as descriptive statements, but when they depart from the main track to examine less specific phonological and morphological phenomena of Portuguese, they are of crucial importance to the study of language in general. The present study feels the need to reexamine the recent studies of Portuguese pluralization and phonology,
predictable by their surface configurations, and those forms which constitute clear exceptions to any method of analysis.

2. STRESS PLACEMENT

At the very heart of the generative phonological studies dealing with pluralization in Portuguese and Spanish is the notion of a 'stress placement rule', which predictably assigns word stress to most words based on the configuration of the posited underlying forms. Although not of fundamental importance to the analysis offered in the following section, the treatment of stress placement in Portuguese has served as one of the major factors in justifying an abstract analysis of pluralization and other related phenomena, and therefore a brief examination is called for at this time.

In Portuguese, stress may occur on the final, penultimate, or antepenultimate syllables, depending largely on the word in question. Although very few minimal pairs may be found, word stress is definitely phonemic in Portuguese, as evidenced by the following examples:

\[
\begin{align*}
duvida & \quad [du\,\text{v}i\,\text{d}a] \quad \text{'doubt'} \\
duvida & \quad [du\,\text{v}i\,\text{da}] \quad \text{'he doubts'} \\
dividir & \quad [di\,\text{vi\,di\,ri\,r}] \quad \text{'I divided'} \\
divide & \quad [di\,\text{vi\,di\,ri\,r}] \quad \text{'he divides'}
\end{align*}
\]

The wide range of stress variation possible in Portuguese has often elicited the claim, mostly by grammarians, that word stress is always a lexical feature, a claim exemplified by the textbook of Agard, Willis and Lobo (1944: 14): “The stressed or strong syllable in a Portuguese word is, we repeat, fixed by tradition. As in English, the stress must be learned with each word. The stressed syllable may (depending on the word in question) by any of the last three.” Such a statement, while perhaps allowable in the course of second-language teaching, presents a distorted picture, for word stress in Portuguese is at least partially predictable on the surface (and also by the orthography, since all deviations are marked by a diacritic). It is therefore useful to examine the predictable cases of stress placement, in order to determine what kind, if any, of stress placement rule may be at work.

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1 This topic is treated explicitly by Hensey (1968), Agard (1967: 166-79), and St. Clair (1971). It is implicit in the work of Saciuk (1970) and Brasington (1971).

2 Throughout this study, the pronunciation of cited forms will be of some variety of Brazilian Portuguese, in particular that of the cities of São Paulo and Rio de Janeiro.
By far the most consistent class of words, with respect to stress assignment, is the set of words ending in one of the permisssible final consonants: -s, -z, -l, and -r, for such words invariably (with a few exceptions, all marked orthographically with an accent) take the accent on the final syllable. This phenomenon is completely general for all morphological classes, as is illustrated below:

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>contar</td>
<td>[kɔtár]</td>
<td>'to count'</td>
</tr>
<tr>
<td>jamais</td>
<td>[ʒɛmájs]</td>
<td>'never'</td>
</tr>
<tr>
<td>cortes</td>
<td>[kɔrtɛs]</td>
<td>'courteous'</td>
</tr>
<tr>
<td>rapaz</td>
<td>[rapás]</td>
<td>'boy'</td>
</tr>
<tr>
<td>papel</td>
<td>[pepé]</td>
<td>'paper'</td>
</tr>
</tbody>
</table>

It also applies when the word ends phonetically in an (oral) diphthong, including words in -l, which in many parts of Brazil are pronounced with final [w].

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>falarei</td>
<td>[farɛɾi]</td>
<td>'I shall speak'</td>
</tr>
<tr>
<td>fuzil</td>
<td>[fuzi]</td>
<td>'rifle'</td>
</tr>
<tr>
<td>andou</td>
<td>[ãdôw]</td>
<td>'he walked'</td>
</tr>
<tr>
<td>viu</td>
<td>[vi]</td>
<td>'he saw'</td>
</tr>
</tbody>
</table>

Statistically, by far the largest portion of Portuguese words ending in an oral vowel takes stress on the penultimate syllable, a synchronic residue of the old Latin stress placement rule. Exceptions to this general tendency are marked orthographically, as illustrated above, but such exceptions yield no other clue as to the position of the accent.

Words ending in a nasal vowel or true nasal diphthongs act as though they contained oral vowels or diphthongs; i.e. take the stress on the penultimate or final syllables, respectively:

<table>
<thead>
<tr>
<th>Word</th>
<th>Pronunciation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ontem</td>
<td>[ɔtɛj]</td>
<td>'yesterday'</td>
</tr>
<tr>
<td>escuridão</td>
<td>[iʃʃuridaw]</td>
<td>'darkness'</td>
</tr>
<tr>
<td>irmã</td>
<td>[iɾmã]</td>
<td>'sister'</td>
</tr>
</tbody>
</table>

There is thus seen to be a certain measure of regularity among Por-

tuguese words with regard to stress assignment, a regularity predictable in terms of the surface representations and reflected by the codified orthography, and hence a regularity which may be posited as constituting a general rule of Portuguese. A tentative formulation of the stress-assignment rule would be a surface condition such as:

(1) \( V \to [+\text{stress}] \quad (\text{--- voc}) \), \( (V) \# \)

Statement (1) expresses the directly observable generalization that stress normally occurs on the last syllable of any word ending phonetically in a consonant or glide, otherwise occurring on the penultimate syllable. Inasmuch as it is not only consistent with the facts, but also represents a generalization which the native speaker might be expected to arrive at given only a general corpus of utterances, rule (1) may be tentatively considered as accounting for the (non-morphologically-determined) predictable cases of stress assignment in Portuguese.

In sharp contrast to the analysis proposed above, the generative phonological accounts of Portuguese stress placement have assumed from the beginning (either explicitly or implicitly) the synchronic existence of the old 'Latin stress rule', a position summed up by St. Clair (1971: 93): "stress the penultimate syllable of the underlying form if it is a strong syllable, otherwise stress the antepenultimate syllable ... a strong syllable is one which is either tense or closed. The latter is characterized as a vowel followed by two or more consonants." Accepting as synchronically productive a rule which superficially disappeared many centuries ago encounters numerous obstacles, and immediately necessitates an abstract analysis in order to achieve a consistent solution. First, such a premise must deal with such noteworthy exceptions to the environment of the LSR as missiva, 'postman', álgebra, sinapse, geometria, etc. Relying on such criteria as a [----- native] lexical classification for these forms is begging the question, since they are as much a part of the Portuguese language as any other word, and therefore must be included in any description of the language. The use of a tense/lax classification in the description of the Portuguese vowel system constitutes an otherwise unmotivated diacritic, since no such distinction is ever realized in pronunciation. It is presumably this diacritic which would be required to correctly assign stress to such otherwise unpredictable pairs as árvore 'tree', nitide 'foolishness', as compared with esfera 'sphere', portuguesa 'Portuguese (f.)', thus regularizing a process which native speakers feel is unpredictable, and which demands a penultimate stress unless otherwise indicated (i.e. by the orthography, or by imitation).
Perhaps the most disturbing conclusion reached by assuming that the Latin stress assignment rule is currently productive in Portuguese phonology is with respect to the analysis of words ending phonetically in a consonant, which normally take stress on the final syllable. In order to utilize the LSR, which allows for stress only on the penultimate or antepenultimate syllables, it is necessary to posit an underlying final vowel (unanimously taken to be /e/, from the Latin etyma of some of the forms involved), which is subsequently deleted by an 'apocope' rule. Thus ‘favor’ ‘favor’ is /faver/, ‘papel’ ‘paper’ is /papel/, and so forth. This abstract analysis is usually justified by pointing out the fact that the underlying final /e/ appears in the plural forms: ‘faveres’, ‘papeles’, etc. Embarrassingly difficult to include by such a technique are forms which do not normally take the plural, for example ‘jamais’ ‘never’, ‘devagar ‘slowly’, ‘calor ‘heat’, and many others, including the verbal infinitives, which all end in -r.

An abstract analysis which posits an underlying final /e/ attached to the end of every form ending phonetically in a consonant completely overlooks the main goal of phonological analysis: to provide a model of the competence of the native speaker which is consistent with all the primary linguistic data to which the speaker is exposed, and which may be arrived at by generalizing from this primary data. To assert that a native speaker of Portuguese will analyze a form such as ‘favor’ as underlying /faver/, merely because the final e appears in the plural ‘faveres’ is to ascribe to the concept of pluralization a much greater cognitive prominence than is justified by observation. In the initial stages of language acquisition, the child normally encounters more singular forms than plural forms, and at very early stages singular and plural forms are apparently learned independently, only later being grouped under a common rubric (cf. Ervin, 1964). Is one then to conclude that a Portuguese speaker, uttering the word ‘favor’, will mentally be deleting a final vowel which disappeared phonetically from the language some twelve centuries ago (Grandgent, 1934: 102), in order to satisfy a stress placement rule which apparently ceased to function at the same time, merely because this vowel appears in the plural form? The answer, I feel, is no, and this answer can be further justified by considering recent borrowings from English. Portuguese does not tolerate word-final stops, thus all borrowed forms ending in a stop receive an appended -e: ‘elbe ‘club’, ‘drinque ‘drink’, ‘pingue-pongue ‘pingpong’, etc. Words ending in -l, -r, -s, and -z, however, are not altered upon borrowing; hence, ‘futbol ‘soccer’, ‘volibol ‘volleyball’, etc. Clearly, if the need to generalize the Latin stress rule were present in Portuguese, such words would receive a final -e, thus making the forms immediately acceptable to the rule, and eliminating the necessity for the final vowel apocope. Or are we to maintain that the speaker, hearing the borrowed word (whose plural does not end in -es), will add the final vowel to the underlying form, and then remove it again by a rule of apocope?

In summary, the stress assignment of Portuguese appears to be largely dictated by the surface forms of the words involved (if indeed there is any significant difference between the surface form of a word and its ‘stored’ form). Normally, words ending phonetically in a consonant receive stress on the final syllable, while those ending in a vowel take a penultimate accent. There is no synchronic way of predicting those Portuguese words which demand an antepenultimate stress; these forms are evidently memorized as such by native speakers. In the light of such a surface consistency, there seems to be no motivation, other than a sort of historical nostalgia, for claiming the present existence of the old Latin stress assignment rule. Indeed, such a rule would force the speaker to actually complicate his grammar, in order to accommodate recent borrowings, as well as to account for words which do not take the plural inflection.

3. THE PLURALIZATION PROCESS

Having tentatively established the environments for stress assignment in Portuguese, we may proceed to investigate the various facets of Portuguese noun and adjective pluralization. Although they may be encountered in any grammar book, the traditional rules for plural formation, based largely on the orthography, are repeated here for convenience of discussion:

I. Words ending in a vowel, except for those in -ão, form the plural by adding -s:

- a cama ‘the bed’
- as camas ‘the beds’
- a irmã ‘the sister’
- as irmãs ‘the sisters’
- o pau ‘the stick’
- os paus ‘the sticks’

II. Words ending in -r, -z, and those ending in -s with accented final syllable, add -es to form the plural:
only of adding /s/ to the underlying singular form, whereas "the phonological changes which appear to accompany the plural formation are not an integral part of that phonological process" (St. Clair, 1971: 92). This may perhaps be too hasty a generalization, however, for closer inspection reveals a somewhat more involved characterization of the plural marker. It will be noticed that most Portuguese plurals end in the sequence 'vowel + s'. More specifically, all plurals end either in a glide or a vowel, plus s. We may thus propose a canonical ending for the plural of a noun or adjective, an ending so general as to be without exception in the language:

(2) **Canonical plural form:** ..........[−cons] s #

In asserting that (2) is the canonical form for a Portuguese plural, it is meant, in effect, that what the native speaker responds to in attaching the concept of plurality to a given form is not merely the final s, which is the plural morpheme proper, but rather the entire surface configuration of the word, which is of the form given in (2). The synchronic reason for a pattern such as (2) is straightforward, since Portuguese phonology tolerates no word-final consonant clusters. This may be expressed by a surface constraint such as the following:

(3) [+seg] → [−cons]/ __ C #

The tendency to reduce consonant clusters in other positions is very strong in many dialects of Portuguese, particularly in Brazil, with the apparent aim of extending the CV syllabic pattern throughout the language. Thus we may encounter such 'expanded' forms as obter for **obter** 'to obtain', **advogado** for **advogado** 'lawyer', **absoluto** for **absoluto** 'absolute', etc. (cf. Silva Neto, 1960: 41). It is doubtful, however, that such a tendency will ever dominate the Portuguese language.

The fact that the plural form of all Portuguese nouns and adjectives satisfies the pattern given in (2) strongly suggests that pluralization may be dictated by the need to conform to a surface configuration general to the language. In order to add substance to such a claim, it must be shown that the specific rules connected with the pluralization process are determined by the surface structure of the words to which they apply, and that the overall effect of such rules is to produce an acceptable surface form. It is to this end that the remainder of this section is dedicated.

For the forms of the above class I, which end in a vowel, the canonical shape of the plural is achieved merely by adding the plural morpheme s. This is true whether the singular form ends in an oral vowel (**livro**–**livros**
'book(s)’ or in a nasal vowel (irmã–irmãs ‘sister(s)'). The latter instance acquires special significance since a good case may be made for analyzing Portuguese nasal vowels as containing an underlying oral vowel plus nasal consonant. If one analyzes a word such as irmã as underlying irmãN, it becomes apparent that the plural ending is added to the surface form, since otherwise a non-permissible underlying final consonant cluster would result, which contradicts the surface condition (3). An identical observation may be made in the case of the words of class III, ending orthographically in -n or -m. Since these words terminate phonetically in a nasal vowel or diphthong, only the plural morpheme s must be added in order to achieve an acceptable surface form. The change from m to n in the plural is merely an orthographic convention, since the nasal consonant is not pronounced, serving merely to indicate vowel nasalization.

Turning now to the words of class II, which end in -s, with final accent, and which form their plurals by adding -es, we see the full impact of the surface constraint shown in (3). If the plural morpheme s were merely added to the end of such words, the results would be the non-permissible sequences *-ls, *-rs, *-zs, *-ss. In order to assure the production of an acceptable plural form for words of class II, a condition must be present which breaks up the potential final consonant cluster by inserting an e:

(4) Ø → e/C---s #

Rule (4) is merely a special case of the general constraint (3), which in turn is a less general form of a general tendency toward making Brazilian Portuguese a CV language, as mentioned earlier. It states the observable fact that word-final consonant clusters are avoided by inserting a vowel either between the two consonants (as in plural formation) or perhaps at the end of the cluster (as in borrowed forms like drinque, chance).

In contrast, the generative phonological analyses previously mentioned would have it that the words of class II contain an underlying final /e/, which accounts for the plural ending -es. Several consequences of such a position have already been outlined in the previous section. A further undesirable feature of an abstract analysis lies in the formulation of the apocope rule needed to remove the posited underlying vowel from the singular form. Such a rule will have to state that final /e/ is deleted following /l/, /s/, /z/, and following /s/ when the preceding vowel is stressed, an environment which constitutes anything but a natural class. More generally, one may say that the environment of the apocope rule consists of the class of sonorants plus /s/ and /z/. This statement immediately encounters a veritable hoard of counterexamples, such as nome 'name', time 'team', crisis 'crisis', bulle 'beep', bugre 'savage', and many others. One must then mark every form in the lexicon which contains the correct environment for potential application of the apocope rule, which amounts to making a large list of all such forms. If one assumes, however, that the generalization that the native speaker arrives at is not that some words delete final /e/ and others do not, but rather that words ending in a consonant take final stress, a perfectly consistent and virtually exceptionless solution is obtained.

Before continuing, it is interesting to note that the proposed apocope rule, far from being a general phonological rule of Portuguese, must be restricted so that it fails to apply only during plural formation. Just as an example, the word favor ordinarily forms its diminutive as favórinho. If the underlying /e/ were allowed to appear due to the addition of the diminutive morpheme, the surface form would be favórezinho, or perhaps favórinho. Identical results are obtained when other inflectional morphemes are adjoined. Thus not only must the apocope rule be stated with an unusual environment, with a large number of exceptions, but it must also be restricted so that it applies in every instance except during pluralization.

Perhaps the most striking facet of the Portuguese pluralization process is the alternation exhibited by the words of class IV, which end in -l. Synchronically, these forms constitute a more or less exceptional class, since their plural endings are the result of the loss of intervocalic i from the once ordinary plural endings in -les which occurred in Old Portuguese. They are regarded as aberrant by native speakers, who consider them exceptions to the general process of plural formation, and a regularizing tendency toward an ending in -les may be observed in the uncultured
speech of many Portuguese and Galician dialects,8 no doubt aided by the noteworthy common exception *maί males *evil*.

The standard generative phonological analysis of the pluralization of words ending in -l (which also supposedly contain underlying final /e/) is to posit a *general* rule which deletes the intervocalic l of a form such as papel /papel/ when the plural morpheme is added (cf. St. Clair, 1971: 94). Aside from figuring in the analysis of the plural formation process, such a rule of *lateral loss* does not occur in Portuguese. Not only are there thousands of words exhibiting intervocalic l, but the very words of class IV do not drop the l under circumstances other than during pluralization; for example canal *canal*, canaliculo *small canal*, papel *paper*, papeleo *cardboard*, etc. The forms ending in -l, while exhibiting an internally consistent plural formation, are the syncronic residues of a long-spent process, and there appears to be no motivated way of deriving these forms in a manner paralleling their historical evolution. In view of their exceptional status, felt by grammarians and uncultured speakers alike, the only legitimate analysis possible is one that will describe the pluralization of words in -l in a way that the native speaker actually hears it. For words ending in -al, -ol, -el, and -ul, the most reasonable statement of the pluralization rule is:

(5)  l → i /V _____ s #

Those words ending in stressed -il, whose plurals end in -is, are also covered by (5), and the resulting lengthened vowel, ii, nondistinctive in Portuguese, is reduced by a general condition of shortening, the same condition that reduces, for example, para a to pra 'along the'. Forms ending in unstressed -il, which take the plural in -cis, are completely irregular, synchronically and diachronically, and constitute only a handful of examples. For obvious reasons, no attempt has even been made to derive them in a principled way.

A further note should be added on the present situation in many dialects of Brazil, where final -l is vocalized to [w], thus creating homonyms like pau *stick* and paul *swamp*. To the speaker of such a dialect, there is no way of determining the phonological structure of a word ending in [w] unless the spelling is known. One would therefore expect confusion to occur both ways, with accompanying repercussions on the pluralization process, which in fact does occur (cf. Mattoes Cómaro, 1957: 283). Such confusion points out the fact that native speakers, whenever possible, analyze words on the basis of their surface forms, since if the speakers of the Brazilian dialects in question took advantage of all the morphophonemic alternations credited to them by generative grammarians, no confusion would be possible. It therefore seems safe to say that the pluralization of words ending in -l, given in (5), while producing an acceptable surface form conforming to the general canonical pattern (2), is in no way a *natural* rule general to the language, but rather a special morphophonemic rule arising as the result of previous historical developments.

The words of class V, ending in -s with unstressed final syllable, are quite exceptional, constituting at most half a dozen examples. Historically, these words once had a regular plural ending in -es, losing the ending through a process of haplography to yield the present forms (cf. Williams, 1962: 126). Synchronically, there has been no attempt at restoring a regular plural form, for the final syllable of a Portuguese *proparáxôntome is* very weakly articulated, often dropped; thus, an ending such as *Ps is would ordinarily reduce to Ps. The fact that the words in class V already sound like well-formed Portuguese plurals, and would present difficulties in pronunciation if an additional plural ending were added, explains the exceptional status of these forms in modern Portuguese.

More energy has been expended by generative phonologists to derive the plural forms of class VI, ending in -ão, than for all the other classes put together. This seems rather unusual, in view of the fact that synchronically, the plural of a word in -ão is completely unpredictable, and such forms are learned as a list by native speakers and foreign students alike. The total irregularity of many Portuguese plural forms has led one native speaker, Gutierrez da Silva (1969: 173) to comment:

Número — o morfema é /S/, mas apresenta-se também o alomorfo /ES/. Em muitos casos, os alomorfos, diacrônicamente explicáveis, constituem complexo quadro, a que não falta a hipótese de flutuações dentro do próprio sistema usual da língua, como é o caso do plural dos nomes terminados em /ÁO/ ou dos em /IL/ átonas. [Number — the usual morpheme is /S/, but the allomorph /ES/ appears also. In many cases the allomorphs, considered diachronically, present a complex system, about which there are many hypotheses concerning fluctuations within the proper usual system of the language, as is the case with the plural of the nouns ending in /ÁO/ or the atomic nouns in /IL/.]

Historically, such forms derived largely from Latin words containing an intervocalic n; e.g. manus > mão *hand*. Later, by a process of analogy and confusion not yet fully understood, the singular forms of words deriving from Latin -one and -ane fell together with those coming
from -aro, to yield a single ending in -do. In the plural, however, the
reflexes of the various etymological sources were kept apart; thus we
have, for example, ratione > razão but rationes > razões ‘reason(s)’.
Synchronously, the native speaker, hearing a new word ending in -ão,
ordinarily has no idea of the plural form, unless he also knows French,
Spanish, or Latin, in which case he could make a reasonable (although
not always correct) guess. Statistically, the plural ending in -ões is by
far the most common, thus both historically and at the present time
an analogical levelling is taking place to form the plural of all words in -do
along the -ões pattern. Commonly heard examples include Castelões
for Castelão ‘Spaniards’, temporões for temporão ‘prenature’, capitões
for capitão ‘captains’, alemões for alemão ‘Germans’ (cf. Louro, 1952:
44). In substandard speech, this tendency dominates, and it is not un-
reasonable to speculate that Portuguese may eventually evolve to the
point where all words in -ão take the plural in -ões. These observations
demonstrate the fact that the various possibilities for pluralizing a word in
-ão, when they are even observed by native speakers, are felt as ex-
ceptional, and levelling based on the predominant surface pattern occurs,
not heeding supposed morphophonemic alternations with other forms.

Recent generative phonological studies of Portuguese have all analyzed
words in -do as containing underlying intervocalic /n/ and have furthermore
modelled the underlying forms on the historical etyma, in order to
correctly predict pluralization. Thus cão ‘dog’ is /kane/, cristão
‘Christian’ is /kristano/ and razão ‘reason’ is /ratião/. Distinguishing
in the analysis underlying forms which native speakers cannot predict
seems an unwise tactic, and in most cases no truly valid morphophonemic
alterations may be found which would support such an analysis. Saciku
(1970: 199 f.) justifies the analysis of pão ‘bread’ as /pane/, and by ex-
tension a similar analysis for all words in -ão by citing forms such as
panificação ‘bakery’, panificador ‘baker’, and panificar ‘to make bread’.
Disregarded in such a presentation is the fact that the cited forms are
erudite and scarce, whereas pão is probably in the vocabulary of every
Portuguese speaker. The common words for ‘bakery’ and ‘baker’ are
padaria and padeiro, respectively, while ‘to make bread’ would probably
be rendered by a paraphrase such as fazer pão. Most words in -ão ex-
hibit even fewer traces of morphophonemic alternation, thus rendering
highly suspect the proposed abstract analysis. The details of these anal-
yses (requiring between 6 and 12 steps, depending on the particular case)
may be found in the papers of St. Clair, Brasington, Saciku, and Hensey,
and will not be repeated here. It is clear that those adhering to an
abstract analysis of this nature can, if sufficient rules be considered,
derive anything from anything. The point is not whether the analysis
produces the correct surface forms, but how such forms are arrived at.
In order to describe, for instance, the ‘fact’ that /ratione/ becomes razão
in the singular, but razões in the plural, it is necessary to posit a large
number of otherwise unmotivated rules, all in order to formally regularize
a process which native speakers agree is totally anomalous. In modern
Portuguese, the pluralization of words in -ão is being levelled out by an
analogical process independent of the morphophonemic alternations
supposedly partitioning the class of such words into three ‘predictable’
categories. In the light of this tendency, as well as of the lack of adequate
justification for an abstract analysis, there seems to be no way of claiming
a regular derivation for Portuguese forms ending in -ão which will be
consistent with the observable performances of native speakers.

4. CONCLUSIONS

The formation of Portuguese plurals, together with various accompanying
phenomena, has been examined with respect to the surface structure of the
language. There has been seen to be a general canonical pattern
exhibited by plural forms, arising in part from general surface constraints.
Two main types of pluralization methods have been distinguished, those
predictable by rules, and those which, despite conforming to the canonical
pattern, cannot be derived in any principled way and must be considered
anomalous. The need for positing an abstract analysis for the pluraliza-
tion process has been questioned, since it is possible for the native speaker
to arrive at a perfectly consistent and feasible generalization merely by
examining the surface forms involved in the process.

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