

SOME PROBLEMS IN IDENTIFYING THE DISTINCTIVE FEATURES OF PORTUGUESE CONSONANTS

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Most studies on the phonology of one variety or another of Portuguese divide the consonantal phonemes into five orders, or more, according to their points of articulation (usually bilabial, labio-dental, dental and/or alveolar, palatal, velar, and sometimes uvular — when the latter is the point of articulation of 'strong *r*'). Such descriptions (including, among others, Hall 1943, Reed and Leite 1947, Staub 1956, Rameh 1962, Morais Barbosa 1965) give much attention to articulatory detail in specifying the orders of the consonantal phonemes, but they do not show the true nature of the oppositions involved, since they do not discriminate between the differences in points of articulation that are distinctive and those that are redundant.

A different, more functionally oriented approach was adopted by Mattoso Câmara (1949, 1953) in his studies on the speech of Rio de Janeiro. Noting that the differences between the paired points of articulation bilabial and labio-dental, dental and alveolar, palatal and velar, are non-distinctive in the variety of Portuguese under analysis, Mattoso Câmara arranged the consonants in a paradigm with only three orders: 'labial', 'apical' and 'dorsal'. Following Mattoso Câmara's example, Lüdtke (1952) arranged most of the corresponding consonants of standard Iberian Portuguese in the same manner. Head (1964, 1970) has pointed out that the three orders posited by Mattoso Câmara — labial, apical and dorsal — are adequate for specifying, in generalized articulatory terms, the opposing orders of consonants only in varieties of Portuguese where 'strong *r*' is not a velar or post-velar fricative (since such varieties have four distinctive orders in at least one series); he has also shown that, in terms of the categories of distinctive features posited by Jakobson, Fant and Halle (1952), the three orders in question should be characterized respectively as diffuse and grave, diffuse and acute, and compact.

As shown above, most (though not all) of the studies done to date on Portuguese phonology manifest too much concern with articulatory detail in their description of the orders of consonantal phonemes according to place of articulation, but by not stating which differences in point or zone of articulation are distinctive and which are redundant, they fail to show the simple, coherent systems of oppositions in the respective varieties of the language.

Another failure commonly occurs in the treatment of the series of consonants established according to manner of articulation, for which descriptions of Portuguese phonology commonly do not identify accurately nor state clearly the features which serve to distinguish certain series from each other, namely /p t k, b d g/ and /f s ʃ, v z ʒ/. This failure is due essentially to a lack of adequate attention to the full range of variation, according to phonological environment, of some of the members of the sub-paradigm /p t k, b d g/; it also relates to unsatisfactory usage of the terms 'stop' or 'occlusive' and 'fricative'.

Reed and Leite, Staub, Rameh, Mattoso Câmara and Pontes (n.d. 1969) employ the terms 'stop' or 'occlusive' and 'fricative' (or cognate terms) to characterize the members of the paired series /p t k, b d g/ and /f s ʃ, v z ʒ/, respectively. Hall, Sten (1944), and Hammarström (1957) do not describe the manner of articulation of all members of these series, and do not state the nature of the oppositions between them. Although Morais Barbosa describes the articulatory characteristics of /p t k b d g f s ʃ v z ʒ/ and their allophones, he does not identify any feature common to /p t k/ and /b d g/ which would serve to distinguish these series from /f s ʃ/ and /v z ʒ/ respectively.

The similarity in the arrangements of the series of consonants according to manner of articulation in the paradigms presented in the studies previously cited (which typically include the following series: /p t k/, /b d g/, /f s ʃ/, /v z ʒ/, /m n ɲ/, ...), and the common use of the terms 'stop' or 'occlusive' and 'fricative' (or cognate terms) — both in descriptive grammars of Portuguese and in linguistic analyses of the phonology of different varieties of the language — to characterize the members of the groups /p t k, b d g/ and /f s ʃ, v z ʒ/ would seem to suggest that the features involved and the nature of the oppositions between these series were always the same. Careful examination of the range of variation of the members of the series commonly labeled 'stops' or 'occlusives' reveals, however, that the distinctive features differ from one variety to another.

In the dialects of Portuguese in which /t/ and /d/ have palatalized variants [tʃ] and [dʃ] before the high front vowel (as in Rio de Janeiro, Belo Horizonte, and other places in Brazil), the features which distinguish the series /p t k, b d g/ and /f s ʃ, v z ʒ/ from each other are surely different from those which distinguish the corresponding series in varieties in which the phonemes /b d g/ have 'semi-occlusive' or 'spirant' variants [β ʃ γ] in certain phonological environments, especially in intervocalic position before an unstressed vowel (as is found in the speech of Lisbon, Coimbra, and other places in Portugal). In the former dialects (of Brazilian Portuguese), the variants [tʃ dʃ] of /t d/ are STRIDENT, and /p t k, b d g/ share only the feature INTERRUPTED. Thus, it is this feature which distinguishes them from /f s ʃ, v z ʒ/, which are CONTINUANT (and, redundantly, also *strident*). In the dialects typical of European Portuguese, where /b d g/ have 'semi-occlusive', 'spirant', or "continuant" positional variants, [β ʃ γ], the members of the series /p t k, b d g/ have only the feature MELLOW in common (but not INTERRUPTED, since this feature does not characterize

all of the occurrences of /b d g/). Therefore, MELLOW distinguishes /p t k, b d g/ from STRIDENT /f s ʃ, v z ʒ/, for which, in such instances, the feature CONTINUANT is redundant.

In view of the dialect differences described above, it is misleading to label the series /p t k, b d g/ and /f s ʃ, v z ʒ/ merely as 'stop' or 'occlusive' and 'fricative' respectively, for the use of such terms obscures the nature of the distinctive features involved, which, in fact, differ between major forms of the language. The terms in question are too vague, since they do not refer to single features, but rather, as traditionally used, to combinations of features: 'fricative' commonly designates segments that are both continuant and strident, while 'stop' and 'occlusive' usually refer to segments that are both interrupted and mellow. The latter terms are also sometimes used to designate strident interrupted segments, although these are usually called 'affricates', or, in the case of [tʃ dʃ], said to be 'palatalized'.

In the description of Portuguese phonology, it is of course possible, in accordance with certain contemporary doctrines, to posit underlying phonological units, valid for the abstract system of the language in general, that are interrupted and mellow for /p t k b d g/, and continuant and strident for /f s ʃ v z ʒ/. Surface structure rules would then account for the differences found between the feature systems of various dialects. In any case, however, mere employment of the terms 'stop' or 'occlusive' and 'fricative', without specification of the exact features involved and their incidence, tends to obscure the nature of the phonological systems of particular varieties or dialects.

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