# Response to Martin Ball & Joan Rahilly, 'The symbolization of central approximants in the IPA', *JIPA* 41 (2011), 231–237

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In the paper 'The symbolization of central approximants in the IPA', Martin Ball and Joan Rahilly approach an interesting problem – the phonetic transcription of approximants other than the so-called semivowels. In the absence of special symbols in the IPA chart, they suggest that special characters should be used for the notation of approximant realizations made at the bilabial, dental, alveolar, lamino-postalveolar, palatal, velar, uvular and pharyngeal places of articulation. In their view, the introduction of new symbols should render those sounds comparable to other non-semivowel approximants for which special symbols are available, i.e., [ʋ] (labiodental), [ɹ] (apico-postalveolar) and [ɻ] (retroflex), while, at the same time, avoiding having to add the lowered diacritic to the voiced fricative symbols [β ð z ʒ ʁ ʕ].

My position regarding this issue is that there is no real need for creating special symbols in order to represent non-semivowel approximants and, therefore, that the addition of a lowered diacritic to the base phonetic symbol is to be preferred. This opinion is grounded in general as well as more specific considerations.

As for the former, it should be recalled that the term 'approximant' refers to consonant realizations which require a lesser degree of constriction than consonants of other manners of articulation and show no turbulent airstream. Approximants are also generally shorter than other consonants though a short duration does not seem to be an inherent characteristic of this consonant class since geminate glides and frictionless continuants may occur phonologically in the world's languages (Maddieson 2008). From both the synchronic and the diachronic perspectives, non-semivowel approximants may be related to several manners of articulation such as stops, fricatives and rhotics, and not just fricatives. In fact, this one-to-many relationship appears to be crucial for avoiding the creation of special phonetic symbols since diacritics may be used instead in a fairly economical fashion, i.e. the lowered diacritic may be appended to a large number of symbols to indicate the same approximant characteristic (cf. 'diacritics may be employed to create symbols for phonemes, thus reducing the need to create new letter shapes' (IPA 1999: 27)). Moreover, adding a diacritic rather than creating a new symbol is very much in line with the fact that the transition from any of the basic manners of articulation to their approximant cognates proceeds gradually, such that variations in constriction degree induced by several factors (context, position, speech rate, prosodic conditions) may cause a change in manner class to occur. A good example is that of Spanish and Catalan, where the phonemes /b d g/ may show more or less often a fricative realization in contextual environments where they are predicted to surface as approximant allophones (e.g. after a heterosyllabic fricative).

As for the more specific considerations, I will try to show that the criterion that a diacritic may be used in order to create new symbols may be applied successfully since the IPA chart provides phonetic symbols for fricatives and/or approximants at all places of articulation.

(i) There are basically two sets of symbols for the vowel-semivowel series, i.e. essentially the vowels [i u y ɯ] and the corresponding glides [j w ɥ ɰ], which renders somewhat awkward the use of the symbol [ɰ] rather than [ɣ] for representing a velar approximant (see Ladefoged & Maddieson (1996: 322) and IPA (1999: 121) regarding the presence of [ɰ] as a glide in languages such as Axininca and Korean). Glides may exhibit dialect-dependent differences in degree of opening (Maddieson 1984b), and thus close cognates such as those occurring syllable-initially in Spanish (see [j] in (iii) below), and open ones such as those found in intervocalic word-medial position in Majorcan Catalan (['paj̞ə] *palla* 'straw'; Recasens & Espinosa 2005). The raised and lowered diacritics may thus be used for transcribing these close and open phonetic variants.

(ii) The tap/flap–fricative or approximant series also has two symbols for each place of articulation, i.e. [ɾ] – approximant [ɹ] (alveolar), [ɽ] – approximant [ɻ] (retroflex), and [ʀ] – fricative [ʁ] (uvular) though [ʁ] may also be paired with [χ] (Maddieson 1984a: 81). The raised diacritic may be used for transcribing the alveolar and retroflex fricatives [ɹ̝] and [ɻ̝] which occur in some South African English dialects, while the lowered diacritic may be used for the transcription of the uvular approximant [ʁ̞] in Eastern Armenian (Ladefoged & Maddieson 1996: 165, 236; Maddieson 1984a: 81).

(iii) The stop-fricative series has two sets of symbols as well, i.e. [b d ɟ g] and [β ð ʝ ɣ]. In agreement with previous proposals (Abercrombie 1967: 126–127; Martínez-Celdrán 2004), the lowered diacritic seems appropriate for transcribing the approximant cognates of the latter fricative sounds, i.e. [β̞ ð̞ ʝ̞ ɣ̞]. This transcription procedure is consistent with the fact that, in the Romance languages, [β ð ɣ] were probably derived from [b d g] without going necessarily through a fricative stage (regarding voiced stop lenition as an online process in Florentine Italian, see Villafaña 2006), and also with the stop and approximant realizations occurring in complementary distribution in Spanish, Catalan and Galician. Moreover, as stated in IPA (1999: 27), the use of diacritics 'may be convenient in particular when a subset of the phonemic system of a language shares a phonetic property', which is the case for [β̞ ð̞ ɣ̞] in the three languages just referred to.

There appears to be also a reason for using the symbols [j] and [ʝ̞] for the transcription of two separate approximants rather than using [j] as the approximant cognate of the fricative [ʝ] (as in Table 2 of Ball & Rahilly's paper). Indeed, both [j] and [ʝ̞] may show up in different positional conditions and correspond to phonetic realizations differing crucially in place of articulation, i.e., [ʝ̞] may be articulated at the alveolopalatal or palatal zone if related to the stop [ɟ] while the glide [j] is typically palatal and may alternate with [i] in specific cases (Recasens 1990). Thus, for example, in Majorcan Catalan, the (alveolo)palatal approximant [ʝ̞] is the lenited variant of the stop realization [ɟ] of /g/ before /i e ɛ a ə/ ([ʒi'ɟant], [ʒi'ʝ̞ant] *gegant* 'giant') while the glide [j] appears in falling and rising diphthongs ([maj] *mai* 'never', [jɔðə] *iode* 'iodine').

The need to keep separate the two symbols [ʝ̞] and [j] has been advocated for Spanish as well, though more work needs to be carried out in order to verify this possibility. Thus, according to Martínez-Celdrán (2004), while the two approximants may be found syllable-initially, the former symbol should be used in those cases where the consonant occurs by itself and the latter whenever the approximant is preceded by a tautosyllabic consonant ([pa'jaso] *payaso* 'clown', [bjo] *vio* 'he/she saw'). However, in contrast with the Majorcan Catalan case described above, palatographic data show that all these Spanish realizations are

palatal, not alveolopalatal (Navarro Tomás 1972: 127; Martínez-Celdrán & Fernández Planas 2001), and therefore may be thought of as variants of the same consonant type differing in degree of constriction and thus, transcribable as [j̟] (i.e. raised [j]) and [j]. An increase in constriction narrowing may certainly yield the fricative [ʝ] intervocalically, and [ɟ] (without frication) or apparently [ˈɟʝ] (with frication) word-initially and after /n l/ ([ˈɟate], [ˈɟʝate] *yate* 'yatch'; Quilis 1981: 263–266).

Similarly, it is convenient to keep separate [ɯ̞] for the approximant cognate of [ɯ] from [ɣ] for the approximant cognate of [g] rather than considering the former the approximant cognate of [ɣ] (as in Table 2 of Ball & Rahilly's paper). The production of the vowel [ɯ] and of a velar approximant involves relevant articulatory differences in tongue position and constriction degree, lingual motion and lip position.

(iv) Open realizations of plain voiced fricatives such as [z], [ʒ] and [ʐ] (also [ʕ]) may be represented with the lowering diacritic. These lingual fricatives may turn into less constricted consonant sounds such as rhotic approximants and glides through articulatory reduction (e.g., [z] > [ɹ], [j]). The need for having two separate symbols for the voiced labiodental fricative [v] and the approximant cognate [ʋ] is justified by the fact that these two sounds occur in phonological opposition in languages like Urhobo and Isoko (Ladefoged & Maddieson 1996: 324).

As is stated by Ball & Rahilly, a compelling argument against the use of a diacritic for the transcription of approximants is that some of the phonetic symbols with a diacritic place beneath are very hard to read. A possible solution to this problem is to allow the diacritic to be placed below, above or at the side of the symbol depending on the case. It is also true, however, that creating eight new phonetic symbols, some of which are quite different from the symbols that they are related to, does not seem very appropriate. Moreover, as pointed out above, by introducing new symbols one loses the notion that approximants and their non-lenited fricative, stop or rhotic counterparts differ just in degree of constriction.

In sum, we think that the lowered diacritic may be used for transcribing all non-semivowel approximants both for conceptual reasons and also since the IPA chart provides at least one phonetic symbol for the fricative or approximant correlates of voiced stops, fricatives and rhotics of different place of articulation.

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