# Bad and good ways to show the vowels of Spanish

Luciano Canepari (© 2012)

1. Unfortunately, many books still use a triangle, either with or without visible strokes, as in *fig* 1. This is too generic and a bit misleading way, because it hides reality, in comparison with other languages.

2. Equally unsatisfactory is the one shown in *fig* 2, because it lacks in precision, being too vague. But, at least, it does not hide the true fact that other languages may have some vowels in a low front and back position, as for instance English [æ, ɑː], as in [ˈmæ˞n, ˈspɑː] *man* & *spa*, respectively. As a matter of fact, English has a mid central (unstressed) vowel, as well: [ə] (and British English also has a stressed one: [ɜː]), as in [əˈbɜːd̥] *a bird*.

3. Some other books (too many, indeed) use the *IPA* quadrilateral, but in a very unhappy way. In fact, they place the vowels in their cardinal positions, just as if they were a kind of spelling (*cfr fig* 3.1). Instead, every symbol should usefully (and, indeed, necessarily) be placed to show its exact realization, at least as in *fig* 3.3. It shows the unstressed position of /e, o/ as well, using two special *canIPA* symbols, [ᴇ, σ], for stressed /e, o/. In fact, the symbols [ɛ, ɔ] would be excessive. The same thing happens when an English word as *bet* [ˈbᴇʈ] is shown either as [ˈbet] or as [ˈbɛt]!

Notice that *fig* 3.2 is equally misleading and has nothing to do with *fig* 3.3, since [ɛ, ɔ] are there simply because certain kinds of transcriptions arbitrarily try to distinguish two timbres for /e/ and /o/. But this is highly unrealistic and unnecessarily complicates the transcriptions, with no real advantage. Rather the contrary. Notice, also, that we introduced two blank dots for the unstressed vocoids [e, o]. Besides, there is something unnatural with the placement of [a], in the official quadrilateral, too. In fact, its more appropriate position is in the middle of the lower part of the diagram: most languages of the World have a phone in that position.

4. *fig* 4.1 shows an acoustic way of showing the vowels of Spanish. Actually, this particular figure of ours is a (very useful) normalization –or average– of several (male) informants' productions. Unfortunately, books that present such measurings, generally, just show the peculiarities of a single informant. Thus, such figures simply pretend to show the essence of a given language. What they actually do, however, is to falsely pass something off as if it were a general situation. In-

stead, it is just one possibility, among dozens, and limited to a particular speaker.

Of course, such figures do not actually show the true essence of a language. Naturally, a single flower (or bird) cannot possibly represent all existing flowers (or birds). As a matter of fact, acoustic figures (or measurements) do not actually represent real *pronunciation*, but only the peculiarities of single *voices*. An acoustic device can only record what is actually said once –and only once– by a particular speaker. Thus, what it can really give is the voice of that person, in that very moment and situation. Nothing more, of course.

Thus, each acoustic diagram is necessarily different from any other, so that different books present different 'realities'. But nobody seems to notice how important this is. Let us notice also that male and female voices are rather different, even (and more so) acoustically, as *fig* 4.2 clearly shows (again by means of an average of male and female voices).

Instead, any plain and normal human hearing goes beyond this serious limitation. In fact, it concentrates on the essentials of communication (for one's own language): phones and phonemes (to say nothing, here, about intonation). It does not mix up accidental and unessential features with what actually matters.

So, this '(highly) scientific' acoustic way is not the best one. It is true that, somehow, it can compensate for a bad ear. But, of course, it is very far away from what real Natural Phonetics can do, even for other languages, not only for one's own language.

5. *fig* 5 shows a better way of explaining the real nature of the vocoids of a given language. In this case, of course, we are dealing with Spanish, which has very few elements. It has been long demostrated by now that eighteen vocoids, for just five vowel phonemes, are excessive, especially if illustrated by means of official *IPA* symbols (necessarily with the addition of some diacritical signs): /i/ '[i, ɪ, i̠]', /e/ '[e, ẹ, ɛ, ə]', /a/ '[a, æ, ɑ, ɐ]', /o/ '[o, ọ, ɔ, ɵ]', /u/ '[u, ʊ, u̟]'. In this case, actually, Spanish would rather look like a Germanic language!

Instead, by using orograms (alone, or together with labiograms and palatograms, as shown in *fig* 5), a more realistic image of the vowels of Spanish is given.

6. Of course, a still better way is to add a vocogram (which is a magnification of the smaller one, that can be seen inside the orograms). In a (serious) vocogram, as that in *fig* 6, any millimeter can be very important in order to precisely show even nuance differences between different languages or different accents of the same language.

Another important improvement in our vocogram is the use of markers of different shapes for rounded or unrounded vocoids, respectively circles and squares (and rotated squares, almost lozenges, can be used for intermediate lip-positions). All these markers can also show stressed vocoids (black), unstressed ones (white), or both stressed and unstressed vocoids (black with white center).

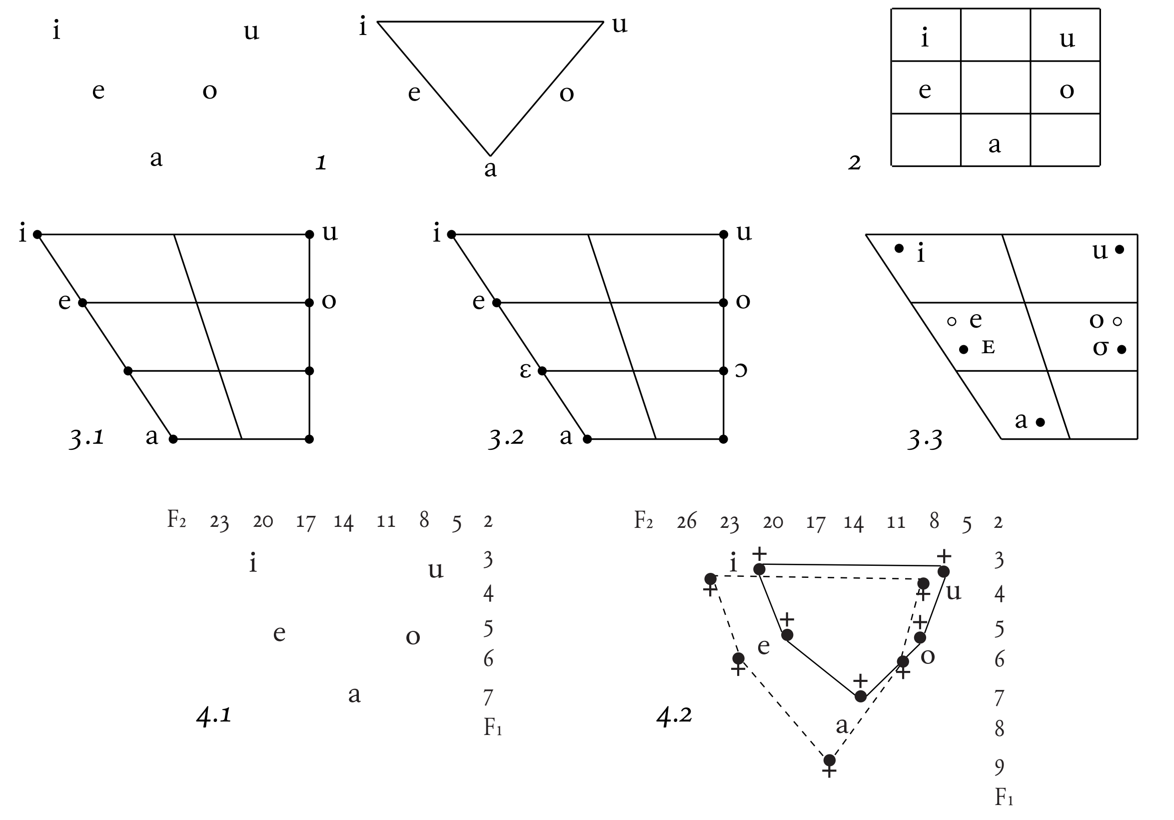
7. Even a normalized description of the pronunciation of any language can have a number of taxophones. Thus, a language such as Spanish, with only five

vowel phonemes, certainly will also show quite a number of possible additional taxophones. To be true, they are not necessary for a good and natural native (or native-like) accent. But, indeed, they *are* a part of that very accent. We are talking about actual different timbres, which in Natural Phonetics it is not possible to ignore, perhaps by simply using just five symbols, as many authors seem happy to do. Instead, we can adequately show them, not only in a clear vocogram, but also with some 'special' symbols, as in *fig* 7.

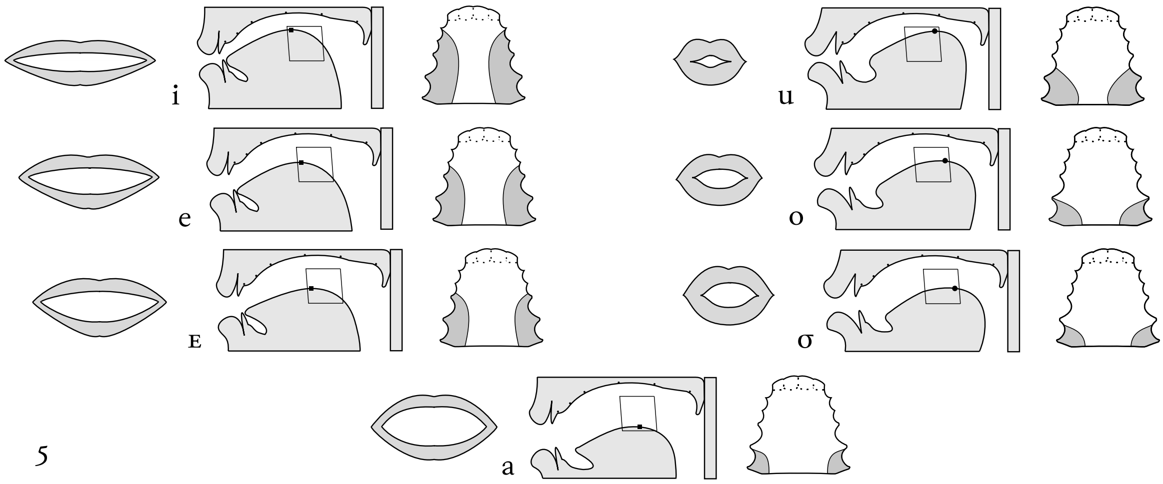
There we can see more than one symbol for each of the five phonemes /i, e, a, o, u/: precisely two ([i, i], [u, u]), three ([ɐ̨, ᴇ, ϵ], [ʊ, σ, ɜ]), or four ([ɐ, a, ɑ, ɐ̶]). They are all possible, though not absolutely necessary, as we said, for a real and genuine native accent. But good speakers, even excellent ones, can oscillate between a number of timbres (also for consonants), provided they are real native timbres (of course, no foreign timbre could do the same satisfactory and convincing job).

8. As a matter of fact, *fig* 8 shows some other peculiar timbres for le sequence /we/, which are part of current (even good) Spanish pronunciation, though, again, not really necessary, but just possible, not only theoretically. Of course, for each column, we might have shown also their possible additional timbres, as in *fig* 7, by means of some further special symbols (*ie* [ɇ, ϵ], already seen in *fig* 7, and [ɘ, ɞ], [ɜ, ʚ], [ɸ, ꝏ]); but this is enough for the present discussion.

9. Of course, it would not be allowed to present quadrilaterals, drawn simply from written reported descriptions by other authors, without actually having listened to these sounds. This is what used to do, for instance, Jack Windsor Lewis, for scores



of languages, with no clear distinction between phonemes, phones, and taxophones. Not rarely, even some phonemes were lacking in his diagrams, and taxophones were very incoherently shown, producing unreal and risible figures.

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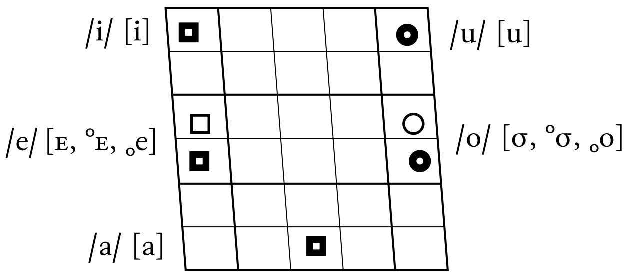


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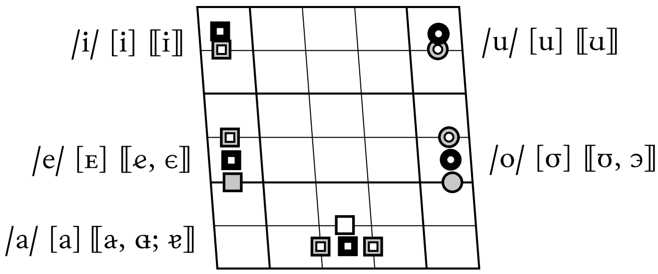


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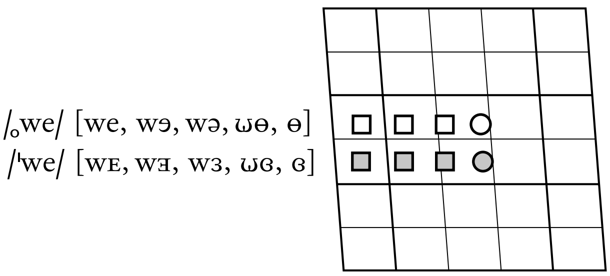


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