

## 7. The official *IPA* & other notations

### Official *IPA*

7.0. We will present –for informative purposes– the official *IPA* chart (fig 7.1, which we indicate as *offIPA*), as the result of the latest reform (brought about in 1989-1993, with corrections in 1996), which –almost playfully, but not without very good reason– can be considered a reform of the past century – indeed, of the past... millennium! Again, as we have done for the preceding, introductory, part we will be using the –generic and phonological– terms *VOWEL* and *CONSONANT*, since these are still beginning, general, levels.

Of course, when we deal with phonetics in specialistic terms (from the next chapter onwards), for enthusiasts, for <experts>, we will accurately distinguish, by using *VOWEL* and *CONSONANT*, at the phonemic (or graphemic) level, but *VOCOID* and *CONTOID*, at the proper phonetic level, which can satisfy real scientific and human curiosities, in order to enjoy the wonderful world of linguistic sounds, with all its variegations (which remind one of the rest of the natural world very much: zoology, botany, mineralogy, astronomy, &c).

### Consonants

7.1. If we observe the official chart, we find consonants given first, although it might have been better to start from vowels. However, in the consonant table (at the beginning of fig 7.1), we immediately notice that the manners of articulation are slightly different from those presented in our early simplification (fig 6.2, and the specialist chapters:  $\mathcal{G}$  9-10). In fact, their order is: *stops*, *nasals*, *trills*, *taps & flaps*, *fricatives*, *lateral fricatives*, *approximants*, *lateral approximants*. Instead of providing a global view, it moves along by slight internal differences, as between *stops* vs *nasals* ( $\equiv$  stops with lowered velum).

The chart goes on by comparing *trills* with *taps* (including *flaps*). In our mini-table in fig 6.2, which shows the fundamental types of manners and places of articulation, flaps are not given, as seems to be more suitable for a first, high-impact, approach. Our rigorous treatment will start from  $\mathcal{G}$  8 to  $\mathcal{G}$  14, although symbols like [r] have already been used right from the start. However, attentive and keen readers of a book such as this should first go through the content and index pages and the various figures, in order to understand their way around the book, which will make future reference to specific topics easier.

The official table also shows the <fricatives> (an auditory term instead of our ar-

fig 7.1. Official IPA Chart (1996).

INTERNATIONAL PHONETIC ALPHABET  
(official, revised 1993 and corrected in 1996)

CONSONANT (PULMONIC)

(*ly@*)

	Bilabial	Labiodent.	Dental	Alveolar	Postalveol.	Retroflex	Palatal	Velar	Uvular	Pharyng.	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k ɡ	q ɢ		ʔ
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ		
Trill	ʙ			r					ʀ		
Tap or Flap				ɾ		ɽ					
Fricative	ɸ β	f v	θ ð	s z	ʃ ʒ	ʂ ʐ	ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Lateral fric.				ɬ ɮ							
Approxim.		ʋ		ɹ		ɻ	j	ɰ			
Lateral app.				ɭ		ɮ	ʎ	ʟ			

Where symbols appear in pairs, the one to the right is voiced. Shaded areas denote articulations judged impossible.

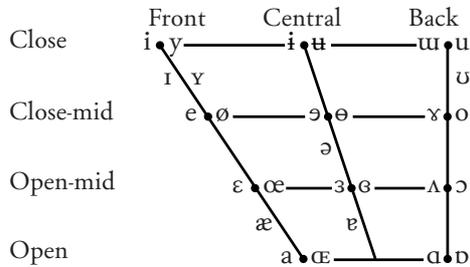
CONSONANTS (NON-PULMONIC)

Clicks	Voiced implosives	Ejectives
◌ ɓ Bilabial	ɓ Bilabial	ʼ as in:
ɗ Dental	ɗ Dental/alveol.	ɓ' Bilabial
! (Post)alveolar	ɟ Palatal	t' Dental/alveol.
ɥ Palatoalveolar	ɠ Velar	k' Velar
Alveol. lateral	ɢ Uvular	s' Alveol. fricat.

OTHER SYMBOLS

- ◌ ɹ Voiceless labial-velar fric.
- ◌ ɻ Voiced labial-velar app.
- ◌ ɰ Voiced labial-palatal app.
- ◌ ɸ Voiceless epiglottal fric.
- ◌ ɠ Voiced epiglottal fric.
- ◌ ʔ Epiglottal plosive
- ◌ ɕ Voiceless alveolo-palatal fric.
- ◌ ʑ Voiced alveolo-palatal fric.
- ◌ ɺ Alveolar lateral flap
- ◌ ɥ Simultaneous ʃ and x
- ◌ ɥ Affricates and double articulat. can be represented by two symbols joined by a tie bar if necess.

VOWELS



Where symbols appear in pairs, the one to the right (and ʊ) is rounded.

TONES & WORD ACCENTS

- |            |                     |               |
|------------|---------------------|---------------|
|            | LEVEL               | CONTOUR       |
| ◌ ɔ̥ or ɔ̥ | Extra-high          | ◌ ɔ̥ or ɔ̥ /  |
| ◌ ɔ̄       | High                | ◌ ɔ̄ \        |
| ◌ ɔ̂       | Mid                 | ◌ ɔ̂ /        |
| ◌ ɔ̌       | Low                 | ◌ ɔ̌ /        |
| ◌ ɔ̏       | Extra-low           | ◌ ɔ̏ /        |
| ↑          | Downstep (relative) | ↗ Global rise |
| ↓          | Upstep (relative)   | ↘ Global fall |

DIACRITICS (Diacritics can be placed above a symbol with a descender, eg ɪ̥)

◌ ɔ̥ Voiceless	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Breathy voiced	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Dental	◌ ɔ̥
◌ ɔ̣ Voiced	◌ ɔ̣	◌ ɔ̣	◌ ɔ̣ Creaky voiced	◌ ɔ̣	◌ ɔ̣	◌ ɔ̣ Apical	◌ ɔ̣
◌ ɔ̥ Aspirated	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Linguolabial	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Laminar	◌ ɔ̥
◌ ɔ̥ More rounded	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Labialized	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Nasalized	◌ ɔ̥
◌ ɔ̥ Less rounded	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Palatalized	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Nasal release	◌ ɔ̥
◌ ɔ̥ Advanced	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Velarized	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Lateral release	◌ ɔ̥
◌ ɔ̥ Retracted	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Pharyngealized	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ No audible rel.	◌ ɔ̥
◌ ɔ̥ Centralized	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Velarized or pharyngealized	◌ ɔ̥	◌ ɔ̥		
◌ ɔ̥ Mid-centralized	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Raised	◌ ɔ̥	◌ ɔ̥		
◌ ɔ̥ Syllabic	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Lowered	◌ ɔ̥	◌ ɔ̥		
◌ ɔ̥ Non-syllabic	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Advanced Tongue Root	◌ ɔ̥	◌ ɔ̥		
◌ ɔ̥ Rhotacized	◌ ɔ̥	◌ ɔ̥	◌ ɔ̥ Retracted Tongue Root	◌ ɔ̥	◌ ɔ̥		

SUPRASEGMENTALS

- ◌ ˈ Primary stress
- ◌ ˌ Secondary stress: ˌfounəˈtʃən
- ◌ ː Long aː
- ◌ ˑ Half-long aˑ
- ◌ ˚ Extra-short ă
- ◌ · Syllable break: ˌi.ækt
- ◌ | Minor (foot) group
- ◌ || Major (intonation) gr.
- ◌ ◌ Linking (absence of a break)

ticulatory one, CONSTRUCTIVES) vs ⟨lateral fricatives⟩ (for our CONSTRUCTIVE LATERALS); also *approximants* (ie central approximants) vs *lateral approximants* (or simply *laterals* – since even *nasals*, strictly speaking, are *nasal approximants*, rather than ⟨nasal stops⟩, seeing that air is not completely blocked and, above all, that they are not ⟨noisy⟩).

7.2. One may immediately observe that the table gives no ⟨affricate⟩ manner (an auditory term instead of our articulatory one, STOP-STRICTIVE). Only at the end of the ⟨other symbols⟩ addition, do we find that name, accompanied by the indication: ⟨affricates and double articulations can be represented by two symbols joined by a tie bar if necessary⟩. And here some of the absurd notational complications arise, since symbols like [ts, tʃ] –which, before the ⟨reform⟩, were highly-recommended ⟨expert⟩ variants (although never clearly withdrawn by the reform)– are no longer indicated. Instead, one can infer that their ⟨normal⟩ notation is meant to be ⟨[ts, tʃ]⟩, exactly like [ts, tʃ] sequences, which actually occur in languages of the world. The ⟨sophisticated⟩ official alternative consists in making use of the clown-like notation ⟨[ts, tʃ̥]⟩ vs ⟨[ts, tʃ]⟩ (or ⟨[ts, tʃ]⟩ vs ⟨[t-s, t-ʃ]⟩, respectively, or even ⟨[t.s, t.ʃ]⟩ for the latter, in case it coincides with syllabification). Officially, the ⟨boat⟩ (⌊\_⌋) or the ⟨umbrella⟩ (⌈\_⌋) are also possible for double articulations, ie with two (simultaneous) coarticulations, as for the velar and labial ones, ⟨[k̆p, ğb]⟩, corresponding to our unitary symbols [kp, gb].

7.3. We will now examine a serious problem in the official consonant table, in relation to places of articulation. First of all, it is absurd to maintain the ambiguous term ⟨retroflex⟩ (instead of POSTALVEOLAR), which more than a place of articulation could be a possible COARTICULATION with many fallacies. But the worst thing is the presentation of the section from DENTAL to ALVEOLAR, up to ⟨postalveolar⟩ (which has deceived quite a few people who try to do phonetics with no good grounding).

This inaccuracy is directly responsible for published pages ⟨telling⟩ that in most languages (including neutral Italian) [t, d; s, z] would be ⟨alveolar⟩ (instead of dental); and even English [ɹ] would be ⟨alveolar⟩ too! A brief moment of quiet meditation would be sufficient to realize that this (serious) mistake is brought about by that absurd presentation, with those pseudo-science subdivisions. In addition, it is seriously misleading to define [ʃ, ʒ] as ⟨postalveolar⟩; again, by actually observing the real articulation of [ʃ, ʒ], and of [tʃ, dʒ] as well (cf fig 6.6), one should easily realize once and for all that we are dealing with three coarticulated places, not only one; in fact, [ʃ, ʒ; tʃ, dʒ] are POSTALVEO-PALATAL PROTRUDED CONTOIDS.

The true POSTALVEOLAR articulations are, for example, [t̠, d̠; ʃ̠, ʒ̠; ɹ̠] (ie ⟨presumed⟩ retroflex sounds). The reform has misplaced, or ignored (?), the ⟨palato-alveolar⟩ place, which used to indicate [ʃ, ʒ; tʃ, dʒ] slightly better, although ambiguity with ⟨alveopalatal⟩ was very frequent. Furthermore, up to the 1951 reform, ⟨retroflex⟩ rightly stood for *postalveolar*; whereas the 1979 reform added ⟨postalveolar⟩, while maintaining ⟨retroflex⟩. In addition, there were ⟨palatalized palatoalveolar⟩ sounds (ie our POSTALVEO-PALATAL, with no lip rounding), [ʃ̠, ʒ̠], which have now disappeared and officially must be rendered as ⟨[ʃ<sup>j</sup>, ʒ<sup>j</sup>]⟩!

7.4. Let us now consider the additional symbols (and of course the articulations and, consequently, the sounds) we find in the official table by comparing them with what was used as a first impression to be developed gradually (cf fig 6.2). Nonetheless, from our own point of view, the official table is too limited to be sufficient or useful. In fact, to produce more realistic transcriptions –within the *off*IPA– one must resort to compromises, by using complicated diacritics. This is the reason why, although *off*IPA is better than any other ‹phonetic alphabet›, its limitations spontaneously call to mind the negative feelings connected to *off* in various phrases, as for instance *an off day* – quite different, of course, from *a day off*!

However, by following the official order (which is different from what we consider more logical and convenient from an articulatory point of view), for STOPS we have PALATAL ‹[ç, ʝ]› [ç, ʝ] (as in Greek *kýrios*, *anánkē* (κύριος, ἀνάγκη) [ˈciːrjɔs, aˈnaŋji]) and UVULAR [q, ɢ] (Arabic *qadiim*, *suuq* [qaˈdiːm, ˈsuːq], Persian *enqeraaz* [ɒŋgəˈrɒːz]), and LARYNGEAL (OR GLOTTAL, [ʔ], which is placed here among voiceless sounds, being correct for two thirds, since the vocal folds are not vibrating, although they are not open either, as for true voiced sounds, but rather tightly closed...).

In the table of the ‹reformed› IPA, which is mainly PHONEMIC (although it is still called PHONETIC), among the NASALS, we also find (amazingly enough) the LABIODENTAL, [ɱ] (*envy* [ˈɛŋvi] /ˈɛnvi/), which is not phonemic in any language! As a matter of fact, also in Teke (spoken in Congo), what has been described as ‹/ɱ/› is actually the short homorganic element of prenasalization in /-bv/ [-bv]). Besides, we find POSTALVEOLAR (‹retroflex›) [ɳ] (Hindi *kaaran* [kaˈrɛŋ], Norwegian *korn* [ˌkhuːŋ]), and UVULAR [ɴ] (German *Zeitung* [ˈtʃaetʊŋ] /-ʊŋ/; seen also in the Persian example given above, as a taxophone of /n/).

Among trills, a bilabial [ʙ] is added (as in Asua, spoken in Zaire, *bo'e* [ˌbɔ.ʔɛ]). Then we find an alveolar tap [ɾ] (as in Italian *rifare* [riˈfare] /riˈfare/, or Spanish *cara* [ˈkaːra]), but also a postalveolar (ie ‹retroflex›) flap ‹[ɽ]›, which has a different nature (as we will see). This must be one of the reasons why too often, the terms *tap* and *flap* are dangerously mistaken or misused.

7.5. Among the CONSTRICTIVES (‹fricatives›) we find BILABIAL ‹[ɸ, β]› (for our [ɸ, β], whereas we prefer to use [ɸ, β] for the approximants, which occur more ‹normally› in the world's languages), as in Ewe: *èvè* [e\_βe] ‹Ewe (language)›, different from *èvè* [e\_ve] ‹two› and *fú* [ˈɸu] ‹bone›, different from *fú* [ˈfu] ‹feather›. Let us briefly note the graphemes *F/f* and *F/f*, or *U/v* and *V/v*, by comparison with *F/f* and *V/v* – let us look at their shapes and *serifs*, since the lower cases are *all* different: three types of *f* and three of *v*. The ‹normal› or ‹unmarked› ones have intermediate shapes between the two extreme ones, which are used distinctively (although just two forms would suffice, as happens with upper cases).

Then we have (slit) DENTAL [θ, ð]: *this thing* [ðisˈθiŋ:], in addition to various (grooved) dental [s, z], *seizing* [ˈsiːziŋ], Latin-American Spanish *seis*, *desde* [ˈseis, ˈdesðe, -zðe], which are to be distinguished from the ALVEOLAR ones which we transcribe as [s, z] – Iberian Spanish: *seis*, *desde* [ˈseis, ˈdezðe]; Greek: *zéstē* (ζέστη) [ˈzɛsɔ]

ti]. After <postalveolar> [ʃ, ʒ] (ie our POSTALVEO-PALATAL PROTRUDED), we find <retroflex> [ʂ, ʐ] (ie just true POSTALVEOLAR), as in Swedish: *Lars* [ˈlaʂ], Mandarin Chinese: *shū* [ʂu], Vietnamese: *số* [ˈʂoo], *ru* [ʐuu]); PALATAL <[ç, j]> [ç, j], in Greek: *chióni*, *giágia* (χιόνι, γιάγια) [ˈçɔni, ˈjaːja], German: *ich* [ʔiç]; VELAR <[x, χ]> [x, χ], in Greek: *láchano*, *gála* (λάχανο, γάλα) [ˈlaˌxano, ˈɣaˈla], in American Spanish: *jefe* [ˈxɛˈfe], general Spanish: *luego* [ˈlweˈɣo]; UVULAR [χ, ʁ], in Iberian Spanish: *jefe* [ˈχɛˈfe], French: *roi* [ˈʁwa], German: *rot* [ˈʁoːt]; and voiceless PHARYNGEAL [ħ], in Arabic: *hubbi*, *fahħhaas* [ħubbi, faħħaːʃ].

Unfortunately, in this row (of <fricatives>) we also find some articulations which are evidently approximant. The first is the voiced pharyngeal <[ʕ]> (Arabic: *ba‘da*, *sal‘* [ˈbaʕda, ˈsɑlʕ]). But we prefer to subdivide more clearly and exchange symbols: PREPHARYNGEAL (<pharyngeal>) [ʕ] and PHARYNGEAL (<epiglottal>) [ʕ̤] (in any case, always approximant!).

The other two pseudo-constrictives –<fricatives>– are (voiceless and voiced) LARYNGEAL [h, ħ] (*hat*, *behave* [hæt, buˈhɛɪv, bə-, -h-]; Hindi: *babut* [bəˈɦʊt]), which are decidedly approximant! Thus they are a diphonic pair, although both of them are lenis (or lenited) since the aretynoids are drawn away (cf fig 4.4).

The CONSTRUCTIVES (<fricatives>) seen up to now are all normal, or CENTRAL, ie produced with no deviations from the most common articulations along the central part of the ARTICULATORY CHANNEL. The table then introduces a <lateral constrictive> articulation, ie CONSTRUCTIVE LATERAL, <[ɬ, ɮ]> (a diphonic pair; although we prefer the symbols [ɬ, ɮ], which are more harmonious and coherent, for whole series, as we will see), with friction noise produced at one side of the tongue, where air is forced; otherwise the result would be a normal lateral approximant, as in: *lily* [ˈliːli].

7.6. Moving to APPROXIMANTS, we see that in the official table they are all voiced (although, of course, many of them are voiceless, as we can ascertain below, § 9.19-20 & § 10.6 & fig 10.5). This fact of (diphonic) pairs is undoubtedly responsible for the mistaken placing of <[ɣ, h, ħ]> –ie our own [ɣ, h, ħ]– among the constrictives. However, we find a LABIODENTAL [v] (as in a typical variant of /ɪ/ in mediatic British English, often colorfully called <Estuary English>: *very* [ˈvɛʊɪ] /ˈvɛɪi/, corresponding to normal [ˈvɛɪi], or to American English [ˈvɛɪi]).

This last example also introduces the <dental/alveolar/postalveolar> general factotum, <[ɹ]>, in actual fact, in our classification, in a more objective and normal way, apart from the dental one, we have three primary types: alveolar [ɹ], PREVELO-POSTALVEOLAR ROUNDED [ɹ̠] (for neutral American pronunciation /ɹ/), and <retroflex>, actually POSTALVELAR ROUNDED [ɹ̠] (for neutral British pronunciation). They represent three different articulatory types, for different places of articulation.

We shall return to [ɹ, ɹ̠], illustrated above in contrast with [v], in order to explain quite a fair few things. For now, however, we limit ourselves to relate the official situation, with <official transcriptions> (but adding our own transcriptions, to avoid further distortions and misbeliefs: for instance, for *rat* –according to the official version– we would have <[ɹæt]> in British English, and <[ɹæt̠]> in American En-

glish. However, if one does phonetics –and transcribes– seriously, by relying on actual articulations, the two symbols must be exchanged, writing [ʔæʔ, ʔæʔ], respectively. This means that (besides the important addition of stress, since a word has to be inserted in a sentence, where even among monosyllables there may be stressed or unstressed syllables) the neutral British sound is postalveolar (‹retroflex›) [ɹ], better still POSTALVEOLAR ROUNDED, since the lips are involved too, whereas the neutral American sound is POSTALVEOLARIZED PREVELAR ROUNDED [ɹ].

Among LATERALS, we find POSTALVEOLAR (‹retroflex›) [ɹ], in addition to velar (‹L›) (for us, [L], as already said).

7.7. Obviously, since the official symbols are too few indeed, it is necessary to add the ‹other symbols› appendix, with: an voiceless ‹labial-velar fricative› –or velar-labial– ‹[ɱ]› (better defined as VELAR ROUNDED APPROXIMANT and represented by [hʷ], both to make handwriting easier and –above all– for its link with other similar sounds – which will be revealed in the more scientific part, ¶ 9-10), and the corresponding voiced sound [w] (Scottish English: *which* [ʰwɪʔ], New Zealand English: *which* [ʰwətʃ, ʰw-], British and American English: *which* and *witch* [wɪʔ]). There is also a ‹labial-palatal› approximant (more precisely POSTPALATAL ROUNDED) [ɥ] (French: *lui* [lɥi]).

Next, we find ‹fictional› phonetics, too, with three ‹epiglottal› sounds, ie indicated with the name of the supposed ‹lower› articulator; in fact, instead of referring to the –legitimate– ‹upper› part, constituted by the roof of the mouth and its extensions (in the labial, pharyngeal, and laryngeal cavities), reference is made to an area of the gregarious part. It would be like calling [c, ɟ; k, g; q, ɢ], or [ɲ, ŋ, ɴ], or [ç, ʝ; x, ɣ; χ, ʁ] simply ‹dorsal› articulations; in fact, ‹epiglottal› sounds correspond to our OWN PHARYNGEAL, whereas official ‹pharyngeal› ones correspond to our PREPHARYNGEAL.

Again, under ‹other symbols› we find the ‹alveopalatal fricative› pair [ç, ʝ] (BILABIALIZED PREPALATAL), which turn up like... a bad penny, in that –given the severe deficiency of official symbols– several authors use these two symbols as if they were a jack of all trades; namely when a sound is neither [s, z] nor [ʃ, ʒ], it is ‹magically› transcribed as ‹[ç, ʝ]›, to render an all-embracing otherness, to the detriment of accuracy... And to think that, sometimes, our own symbols (which will be seen later on, ¶ 10) may seem to be insufficient for any decently reliable rendering!

Then comes an alveolar lateral ‹flap› ‹[ɺ]› (actually a lateralized tap: [ɺ]) probably drawn in a hasty way, by simply overturning an old symbol, as when it was impossible to redraw symbols using a computer. The ‹free gifts› end with another monstrosity: ‹[ɸ]› for simultaneous [x, ʃ]› (wrongly drawn from laryngeal [h]!), instead of a pre-reformed ‹[ɸ]›, corresponding to our [ɸ] (VELARIZED POSTALVELAR PROTRUDED, which can be seen among the orograms in fig 10.5.3, obviously in its second part, since it has a back component).

7.8. Thus far all consonants have been PULMONIC, ie produced using only expiratory air. There is a box for NON-PULMONIC consonants – ‹clicks, voiced imple-

sives, and ejectives›. The *clicks* (or DEJECTIVES, cf § 11.13-16) appear in five places: bilabial, dental, (post)alveolar, ‹palatoalveolar› (inadvertently maintaining the name of a place abolished by the ‹reform›), and alveolar lateral. Here we limit ourselves to report the ‹symbols› judged to be ‹fundamental› (in fact we reserve their scientific treatment, with our symbols, for some later sections, cf § 11.15-16): ‹[ʘ, ɓ, ɗ, ɠ, ʄ]› (which from the cross-eyed point of view of the reform, are accompanied by another [velar or uvular] symbol, instead of using a normal consonantal symbol preceded by a special diacritic to indicate the dejective mechanism).

For *implosives* (or INJECTIVES) the five following places appear: bilabial, dental/alveolar, palatal, velar, uvular: ‹[ɓ, ɗ, ɠ, ʄ, ʘ]›; for EJECTIVES we find four examples: [p', t', k', s']. This treatment is also reserved for the specialistic part (from ʘ 8 onwards), since –apart from the neophytes' curiosities– their natural place (with a ‹European› slant) is there.

## Vowels

7.9. In the official chart (cf fig 7.1), there are 28 vowels, placed in a trapezium, or trapezoid, resulting from a partially wrong initial approach, although within the brilliant idea of analyzing the positions of the tongue dorsum through x-rays, as we will see (ʘ 8). Here we also accept the trapezium-shaped diagram as a precious device, since as regards the usual chaos, it is decidedly at a fundamental stage. However, we have already seen fig 6.1, which meets phonetic requirements better.

The vowel space is slightly subdivided, but without the advantage of real boundaries, into four heights (of the dorsum, placed in three superimposed bands): *close*, *close-mid*, *open-mid*, *open*; but, of course, they are not sufficient, so other intermediate positions have to be added. As far as forward and backward movements of the dorsum are concerned, three classifications are given, in two irregularly shaped areas (which should have been more realistic, according to physiology): *front*, *central*, *back*. Unfortunately, official markers –used to indicate the placement of vowels– are always big black dots; therefore the opportunity of showing lip positions too is lost (whereas our markers have two basic shapes: round and square).

Consequently, looking at the trapezium from top to bottom and from left to right (keeping in mind that when symbols appear in pairs, the one to the right represents a rounded vowel, including isolated [ʊ]), we find: [i, y; ɨ, ʉ; ɯ, u], [ɪ, ʏ; ʊ], [e, ø; ɘ, ɵ; ɤ, o], [ə], [ɛ, œ; ɜ, ɞ; ʌ, ɔ], [æ; ɐ], [a, ɶ; ɑ, ɒ]. Note the ‹reformed› shape of ‹[ɣ]› (for our own –and pre-reform– [ɣ]), which was meant to be useful to avoid authors, editors, and publishers confusing [ɣ] with [ɣ̣] (officially, ‹[ɣ̣]›); but nothing has improved...

7.10. Let us maintain that the official trapezium is mainly theoretical, since it tries not to neglect any possibilities. But the actual result is a forced reality, due to lack of practice and direct experience with at least dozens of structurally very different languages. In default of this, people may labor under the illusion that they know the real value of vowels, but will inevitably be bound to the vowels of

their own personal pronunciation of their mother tongue. What is even worse is that they will be limited by what they think their realizations are and by what they presume the <cardinal> values of the official vowels are... Actually too many English-speaking phoneticians, instead of cardinal [u], instead produce (almost) [ʊ].

On the basis of the degrees of proximity to cardinal (and additional) vowels, phoneticians are supposed to place markers, to which the articulations of a given language ought to correspond. Too often, though (and unfortunately even in publications!), it is possible to find trapeziums with markers that seem placed at random and hastily. At other times, the markers roughly coincide with the points placed on the official trapezium (as if they really might correspond to the theoretical positions). This mainly happens according to the particular symbol in question (be it right or wrong!), used mechanically, without realizing the importance of the vocogram. Instead, lengthy work ought to be done, by attentively and patiently listening to many recordings, in order to compile an average of samples, excluding inadequate and occasional performances, but showing even two or more placements, provided they represent actual contextual, geographical, social, generational, or individual variations... It is absurd to place the /ɔ/ phon(em)es of different languages such as French, German, Portuguese, Italian, and many more, exactly on the official point. However, those who do so, inevitably lose the incredible and useful resources of the trapezium.

7.11. Let us now see the approximate values of the 28 official vowels, whereas exact values (with our 52 vocoids) will be given in the vocograms used in the phonosyntheses of 350 languages (including variants,  $\mathbb{C}$  16-23, and also in the *HPr*, which is dedicated to 12 languages dealt with systematically and with variants). Only by doing this, is it possible to prepare complete transcriptions and descriptions, which actually show the structure of languages, for *descriptive* and *teaching purposes*.

The observations made about the eleven vowels introduced in § 6.1.1-2 must be kept in mind; here we will give only some examples, as can be found in texts and dictionaries, making only few comments. Again a scientific treatment is postponed to the specialistic part of this handbook, although it should not be so, since it would better to start well, and to go on even better... However, we thought that some help might be useful, to avoid discouraging people, especially those who are beginning phonetics reluctantly and more as somebody else's <wish> than to meet their own needs. Even those who might fall within this last category could find this part anything but useless...

7.12. Therefore, omitting the vowels already seen in fig 6.1, we have – Russian: *ty* (*ты*) [ˈtɨ̞], Norwegian: *null* [ˌnʉl], Mandarin Chinese: *zì* [ˈtɕu], German: *litt* [ˈlɪt], *Stück* [ˈʃtʏk], *rund* [ˈʁʊnt], English: *light* [ˈlaɪt], Dutch: *bus* [ˈbʉs], Mandarin Chinese: *gé* [ˈkɛ] (<[ɣ]>), British English: *bird* [ˈbɜːd], New Zealand English *bird* [ˈbɛːd], Swedish: *höra* [ˈhø̞rɑ], English: *hat* [ˈhæt], British English: *hut* [ˈhʉt], American English: *hut* [ˈhʌt], American English: *hot* [ˈhɑt], British English: *hot*

[hɔʃ], non-neutral Canadian French: *preuve* [ˈprœʏv].

Let us only observe that the official chart continues to consider ⟨[ə]⟩ as something undefined, to oppose more precise timbres; something with a kind of intrinsic theoretical statute, more with a phonemic value than as an actual sound. In fact, unfortunately it is used as a jack of all trades (cf § 8.16 – with a range of possibilities which is even bigger than those assigned to the ⟨jack-of-all-trades consonants⟩ [ç, ʒ], seen above, § 7.7).

Also for [a], completely without foundation, the chart continues to make people believe that it is actually articulated in a full front position, that is as if it corresponded to what, objectively (even according to acoustic analyses) is [æ]; whereas the chart continues to ⟨insert⟩ ⟨[æ]⟩ (in the trapezium), putting it *above* ⟨[a]⟩.

In addition, as will appear obvious due to the scarceness of official symbols, each one of them must assume very broad and different values (from language to language), which may not correspond to an actual phonetic value to be used positively. At a phonemic level, things can be (almost) satisfactory; mainly if we limit it to one or few languages, ie for INTERPHONEMIC indications. However, as soon as we try to do something INTRALINGUISTIC, according to the criteria of INTERPHONEMICS (cf § 1.9-10, and ¶ 16-21), we immediately feel severe limitations, which prevent actual and useful comparisons between different languages. Indeed, we do not want to render the pronunciation of some languages poorly, as they would be inevitably flattened into something barely decent (when someone uselessly tries to indicate many different phones, by using only few symbols [as the official ones]). On the contrary, we prefer to be able to choose among many phonemic and phonetic symbols, in order to manage to –accurately– potentially render all languages, and dialects (including variants not yet described). On the other hand, even the few official symbols are a problem to people who are no good at phonemics and phonetics, and practice them reluctantly, by using symbols in a ridiculous and unsatisfactory way (considering them to be real... enemies).

### Prosodic indications & diacritics

7.13. The official chart has a tiny section on TONES (which meant to be illustrative, but many have taken as the complete ⟨revealed truth⟩), and another one on suprasegmentals: primary and secondary STRESS, indications on LENGTH, and structural boundaries; but it is better to look directly at the whole chart. The same holds for the DIACRITICS which from the ⟨reform⟩ point of view ought to be used to indicate modifications of ⟨cardinal⟩ values, in the hope of achieving a certain descriptive accuracy. On the other hand, INTONATION is completely missing, so much so that whoever tries to transcribe it within *offIPA*, according to the chart, is obliged to use the ⟨difficultly delivered⟩ notation for tones. Before the ⟨reform⟩, there was an official notation system for ton(em)es which was more nimble and flexible and (almost) seemed appropriate to mark intonation too. From the pre-reform system, with adjustments and necessary expansions, we have derived the system we use in the true scientific parts of this *HPb* (¶ 8-23, and in the *HPr*, as

well as in the *M<sup>a</sup>PI* and *D<sup>i</sup>PI*, and in the various books in progress too).

Before preparing these sections, we had thought of leaving the readers with the task of evaluate what the official chart may offer. As the saying goes: *enough is as good as a feast* – but science is quite another thing... In addition, at many readers of the *M<sup>a</sup>PI*'s insistence, we re-propose for reflection ¶ 19 of the second edition of the *M<sup>a</sup>PI* –¿to IPA or not to IPA?– which shows the problems and limitations of *offIPA* and other widely used phonetic alphabets, with respect to *canIPA*. Some observations might sound repetitive –but are certainly not useless. As the ancient Romans wisely said: *repetita iuvant...*

### How come the IPA is not used by everyone?

7.14. The International Phonetic Alphabet, officially born in 1888, is the most widely used system of transcription all over the world. Indeed, it has high inherent qualities of clarity, rigor, and non-provincialism, in spite of varied and colored resistance, in almost every Country, where anachronistically people continue to use heterogeneously several different notation systems, which are often contradictory and strangely mixed. All this happens more out of laziness and unwillingness to accept ‹innovations› than for respect of ‹traditions›.

However, the *IPA* is based on phonological principles, rather than phonetic ones, especially after the latest reform, of 1989 (‹de-worsened› in 1993 & 1996) – thus it would be more appropriate to call it the ‹International PhonEMic Alphabet›, as we will see below. Nevertheless, besides providing a certain number of symbols and diacritics, it allows everybody the necessary freedom of expanding the number of diacritics and symbols, to satisfy various needs, as we have done in the *HPh* (and in the *HPr*), with the *canIPA* symbols.

7.15. The first perfectly evident weakness of most phonetic alphabets resides in being devised by considering pronunciation as a by-product of writing, instead of vice versa, as it is obvious and evident: pronunciation precedes writing, all the more so that the latter, for many languages and mainly for most traditional dialects, does not exist yet or is not coherently standardized. ¿How many people in the whole world then can not read or write, although they speak their tongue as ‹perfect natives›?

All other phonetic alphabets are ‹provincial› since they stem from a very limited number of *letters*, which are generally those of an official orthography, with some additions or modifications. In order to increase, as is necessary and unavoidable, the number of ‹sounds› to be represented, several diacritics are introduced, which are often used also in various orthographies: accents, strokes, dots, dashes, &c, often in combinations of two, three, and even more. This inevitably makes writing, and especially printing, heavier; it also complicates reading, which sometimes becomes real deciphering, and not always with successful results. As a matter of fact, several authors, and also several editors and publishers, mix and confuse not only diacritics, but also basic symbols.



of) the tongue dorsum. These (small-sized) diacritics can be put *under* or *over* a symbol (however, complicating writing, and especially printing), or *after* it (further complicating reading, though). The latter possibility is mainly practicable when one wants to precise a timbre in isolation [e<sub>τ</sub>, ε<sub>±</sub>, o<sub>τ</sub>, ɔ<sub>±</sub>], avoiding computer acrobatics.

7.17. However, it is much better to have unitary symbols as [ɛ, σ], without having to renounce precision. These symbols belong to the expanded version of the IPA known as *canIPA*, which is rich of ⟨necessary⟩ symbols, both for precision and not to belittle a part of them, so as to make them ⟨secondary⟩, or restricted, *ie* ⟨diacriticized⟩.

On the other hand, resorting to [e<sub>τ</sub>, ε<sub>±</sub>, o<sub>τ</sub>, ɔ<sub>±</sub>] for [ɛ, σ] further reduces the potential and precision of diacritics, which may be necessary indeed for meticulous and competent phoneticians. In fact, it is often important to show, in addition to a mean value of [ɛ] or [σ] (*ie* the ⟨normal⟩ or ⟨central⟩ value), also a closer ([ɛ<sub>±</sub>, σ<sub>±</sub>]) or opener ([e<sub>τ</sub>, σ<sub>τ</sub>]) articulation, or a fronter ([ɛ<sub>±</sub>, σ<sub>±</sub>]) or backer ([ɛ<sub>τ</sub>, σ<sub>τ</sub>]) one; or even both closer and fronter ([ɛ<sub>±</sub>, σ<sub>±</sub>]) or backer ([ɛ<sub>τ</sub>, σ<sub>τ</sub>]) ones, or both opener and fronter ([ɛ<sub>±</sub>, σ<sub>±</sub>]) or backer ([ɛ<sub>τ</sub>, σ<sub>τ</sub>]). Incidentally, those who know the strange official use of [±, ±] (for advanced/retracted ⟨tongue root⟩, instead of a more logical [±, −]) will surely note their greater coherence and completeness.

Thus nine (9) –non-negligible– nuances are available for each vowel phone; besides, on quadrilaterals (*ie* vocograms) precision can be even greater. As a matter of fact, a *canIPA* vocogram contains 30 boxes (less four extreme peripheral ones, which are not usable, as will be seen below, § 7.18-9 & fig 7.2) which are doubled in number by possible additional lip rounding, for the amount of 52 vocoids, organized in 6 degrees of mouth opening (*ie high, lower-high, higher-mid, lower-mid, higher-low, low*) and 5 places of articulation (*front, front-central, central, back-central, back*) or 10 places if we separate rounded vocoids.

Instead, for the same articulatory space, the *offIPA* has only 28 vocoids, with 4 opening degrees (⟨close, close-mid, open-mid, open⟩) and 3 places (⟨front, central, back⟩); a kind of remedy for this deficiency has been the insertion of [ɻ], and quite messily also ⟨[ɪ]⟩ = [ɪ] and ⟨[ʊ]⟩ = [ʊ] (in addition to ⟨[æ]⟩) and the *jack-of-all-trades* ⟨[ə]⟩, which is being used –with considerable practical disadvantages– for (both primary and contextual) phones such as [ɛ, ə, ɜ, ɐ; ɯ, ʏ, ɤ, ʌ; ə, ɛ], and even [ə, ɔ, ɶ], up to [a, ʌ, a, ɶ] as well!

Obviously, also for consonantal phones, the *canIPA* version –in comparison to the *offIPA*– has many symbols more. But this, of course, is just a *possibility*, not an *obligation* at all. However, when people realize that it is possible and easy to be more precise, they are induced to precision, as a categorical imperative. The IPA has three ways of transcribing stopstrictives (*ie* ⟨affricates⟩): a ⟨monograph⟩ ([ts], the best and smartest, the most respectful of the articulatory reality, and *canIPA*), a ⟨digraph⟩ ([ts], ambiguous and risky), and the use of a ⟨bow⟩ (together with a digraph: [ts̩, t̩s̩], oppressive and complicated). But, strangely enough, the monograph has been... ⟨left out⟩ from the *offIPA* chart.

### Quick comparison between *offIPA* & *canIPA*

7.18. By taking the most official symbols and adapting them in a special table (fairly impoverished though, compared to the general one of the *canIPA* version), we will indicate in *italics>* both the official symbols that would receive further values and the symbols and terms which are hardly recommendable (and which are worthwhile changing with some more rigorous and satisfying ones, given in the corresponding *canIPA* table, cf fig 7.3). However, at the beginning of this chapter we have already seen the *offIPA* table (fig 7.1), with the original terms and symbols, which are criticized in § 7.22-9, as is the missed reform of the *IPA*.

fig 7.2. Vocoid table.

					<i>canIPA</i>										
front	front-central	central	back-central	back	front rounded	front-cent. round.	central rounded	back-cent. round.	back rounded	front	front-central	central	back-central	back	
i	ɪ	ɨ	ɯ		high (A)	ɥ	y	ɥ	ɯ	ɥ	ɥ	ɥ	ɥ	ɥ	
ɪ	ɪ	ɨ	ɯ		lower-high (B)	ɥ	ɥ	ɥ	ɥ	ɥ	ɥ	ɥ	ɥ	ɥ	
e	ɘ	ɘ	ɤ		higher-mid (C)		ø	ø	ø	ø	ø	ø	ø	ø	
ɛ	ɛ	ɜ	ɤ		lower-mid (D)		ø	ø	ø	ø	ø	ø	ø	ø	
ɛ	ɛ	ɛ	ɛ	ɛ	higher-low(E)		œ	œ	œ	œ	œ	œ	œ	œ	
æ	æ	æ	æ	æ	low (F)		œ	œ	œ	œ	œ	œ	œ	œ	
0	1	2	3	4		5	6	7	8	9					

					<i>offIPA</i>				
front	front-central	central	back-central	back	front rounded	front-cent. round.	central rounded	back-cent. round.	back rounded
i		ɨ	ɯ		high (A)				
ɪ					lower-high (B)				
e	ɘ	ɘ	ɤ		higher-mid (C)				
		ɜ			lower-mid (D)				
ɛ		ɛ	ɛ		higher-low(E)				
æ		æ	æ		low (F)				

7.19. As for the vowel quadrilateral <corresponding> to the *offIPA* position (fig 7.2), there are some empty boxes in the cases where one of two near official symbols ought perforce to be chosen (at considerable personal discretion to <decide> between one or the other).

The grey boxes indicate unused articulations in the different languages and dialects, since they would be ergonomically useless: in fact, they would produce a hardly evident auditory impression, in spite of an unnatural articulatory effort to combine on the one hand lip rounding with the highest degree of non-high advancement of the tongue, and on the other hand unrounding with the highest degree of non-low tongue retraction.

For the vocoid in 5-C the result would be a value which could be placed at the junction between [ɥ~ø~ø~ɥ], for 5-D [ø~ø~ø~ø], for 5-E [ø~œ~œ~ø], for 5-F [œ~œ~ø~œ]; for 4-A [ɯ~ɯ~ɨ~ɨ], for 4-B [ɯ~ɤ~ɘ~ɨ], for 4-C [ɤ~ɤ~ɜ~ɘ], for 4-D [ɤ~ɛ~ɜ~ɛ]. Despite this, the *offIPA* continues to make people think that [ɯ ɤ ɛ ɛ]

correspond to column 4, and [y, ø, œ, œ] to column 5, and also that [æ] is closer than 0-F (<zero>-F), where it persists in placing <[a]> = [A].

Obviously [a], which is the most widespread and frequent vocoid in the world's languages and dialects (irrespective of specific orthographies), is 2-F, and with good

fig 7.3. Partial table of IPA contoids for comparison.

<i>canIPA</i>	Bila- bial	Labio- dental	Den- tal	Alveo- lar	Postal- veolar	Postal- veo- dorsal	Pala- tal	Velar	Uvu- lar	Pharyn- geal	Laryn- geal
Nasal	m	ɱ	(n)	n	ɳ	ɲ	ɲ	ŋ	ɴ		
Stop	p b		t d	ʈ ɖ	ʈ ɖ		c ɟ	k g	q ɢ		ʔ
Stop-strictive		ɸβ					kꞤ ɡꞤ				
Grooved st-st.			ts dz			tʃ dʒ					
Constrictive		f v	θ ð				ç ʝ	x ɣ	χ ʁ	ħ	
Grooved cons.			s z	ʃ ʒ	ʂ ʐ	ʃ ʒ					
Approximant	ɸ β	ʋ	ʋ̥ ʋ̤	ɹ			ɸ j	ɸ ɰ	ʁ	ʕ	h ɦ
Rounded app.					ɻ	(ɻ)	ɸ ɰ	ɸ w			
Trill	ʙ			r					ʀ		
Tap & flap				ɾ	ɽ						
Lateral			(l)	l	ɭ	ɮ	ʎ	ʟ			
Constr. later.				ɭ ɮ							

<i>offIPA</i>	Bila- bial	Labio- dental	Den- tal	Alveo- lar	Retro- flex	Postal- veolar	Pala- tal	Velar	Uvu- lar	Pharyn- geal	Glott- tal
Nasal	m	ɱ	(n)	n	ɳ	n/ɲ	ɲ	ŋ	ɴ		
Stop	p b		t d	t̪ d̪	ʈ ɖ		c ɟ	k g	q ɢ		ʔ
Affricate		ɸβ					c ɟ				
Grooved aff.			ts dz			tʃ dʒ					
Fricative	ɸ β	f v	θ ð				ç ʝ	x ɣ	χ ʁ	ħ ʕ	h ɦ
Grooved fric.			s z	s̪ z̪	ʃ ʒ	ʂ ʐ					
Approximant	... ..	ʋ	ʋ̥ ʋ̤	ɹ			ɸ j	ɸ ɰ	ʁ	... ..	... ..
Labialized app.					ɻ	(ɻ)	ɸ ɰ	ɸ w			
Trill	ʙ			r					ʀ		
Tap & flap				ɾ	ɽ						
Lateral			(l)	l	ɭ	ɮ	ʎ	ʟ			
Fricative later.				ɭ ɮ							

reason indeed! It may be interesting to note that the rounded version of [a], that is [ɶ] (7-F), is instead the least used vocoid of all, together with [æ] (6-F); they both mainly remain as almost theoretical elements, since they are hardly distinguishable from [A, a], especially if we consider the significant influence of coarticulation.

7.20. As for the tables of consonants (fig 7.3), it can be noticed that in the *IPA* one, again, terms and symbols in italics are less recommendable and often they must forcibly be used for different phones, for want of more precise symbols (to compare with those given in the *canIPA* table). But most of all we have to consider that in spite of the analyses (acoustic ones too) of many languages and the recognition of the difference between constrictives (‹fricatives›) and approximants, the *offIPA* continues to (let one) believe that [ɸ, β, ɣ, h, ɦ], which are real approximants indeed, are instead constrictives (as [ɦ] actually is, though)!

Owing to the preservation of the inappropriate term ‹retroflex›, teamed with a good deal of hasty superficiality (which makes people still accept old descriptions based on outdated articulatory concepts with no objective verification or validity), the symbol [ɻ], at last officially accepted, is however assigned to the articulation of American English *r*, instead of more correctly to the British one. On the contrary, the latter is linked to the traditional symbol [ɹ], used for the alveolar place of articulation too (ie [ɹ]), whereas it would seem to be clearly evident and useful to use it for the most widespread and frequent articulation of American English *r*, which is a lateralized prevelar rounded approximant, although in the reduced and limited *canIPA* table we had to resort to a terminological device for the ‹postalveodorsal› column, which in this way includes also the most widespread (rounded or unrounded) postalveopalatal places of articulation.

7.21. Outside the official table there are some of the rarest consonantal symbols; although the voiced bilabial trill [ʙ] is certainly not frequent either! On the other hand, also [q, ɢ, ɴ] do not enjoy widespread use, except –relatively– [q]... But, again, the boxes were available. It is true, though, that in the official table there is no room for [w], even if this sound is really one of the most widely used in the world's languages. In the reduced *canIPA* version given in fig 7.3, in a convenient way, we have indicated both [w] and [ɥ] (and even [ʙ]). This last symbol is older and officially withdrawn, but we have retrieved it because it is much more suitable and in harmony with the series of approximants (as can be seen in the integrated table) than the official [ʌ] which also poses big problems of confusion with handwritten [m, u], &c.

Again, outside the official table a pair of jack-of-all-trades consonants has been introduced –officially– which brings to minds the rough use of [ə] (cf § 7.17) from a phonetic point of view (not from a phonemic one). In fact, given the excessive scarceness of symbols for lingual constrictives, all those who must indicate some articulations, which do not fall within [s, z; ʃ, ʒ], believe they are ‹solving› the problem by resorting to [ç, ʒ], which are actually bilabialized grooved prepalatal articulations (although they have something in common, of course). In this way, according to different languages, variants, and dialects described, various authors

make [ç, ʒ] <correspond> to [ʃ̂, ʒ̂, ʃ̂̄, ʒ̂̄; ʃ̂̄̄, ʒ̂̄̄; ʃ̂̄̄̄, ʒ̂̄̄̄] (sometimes even to [ʃ̂̄̄̄̄, ʒ̂̄̄̄̄!]), in addition to sequences such as [ʃ̂̄̄̄̄, ʃ̂̄̄̄̄̄, ʃ̂̄̄̄̄̄̄, ʃ̂̄̄̄̄̄̄̄; ç̂̄̄̄̄̄̄; ç̂̄̄̄̄̄̄̄; ç̂̄̄̄̄̄̄̄̄; ç̂̄̄̄̄̄̄̄̄̄] &c. The same holds for the corresponding stopstrictives (<affricates>). After, a *canIPA* table is given (fig 7.4), although limited to the phones considered here. By careful observation, it will be apparent that its arrangement is more logical and rigorous (although the tables previously seen, fig 7.3, may look more familiar, since they have been around longer), in particular as far as the indication of voicing, or <voice>, is concerned; and with [ʔ] which can not be voiced nor voiceless indeed, as (since the vocal folds are in contact) no air passes through the glottis.

fig 7.4. Reduced table of *canIPA* contoids.

		Bilabial		Labiodental		Dental		Alveolar		(Apico)Postalveolar		Palatal		Velar		Uvular		Pharyngeal		Glottal/laryngeal		VOICE		
m	ɱ	(n)	n	ɳ	ɲ	ɳ	ɳ	ɳ	ɳ	ɳ	ɳ	ɳ	ɳ	ɳ	ɳ	ɳ	ɳ	ɳ	ɳ	ɳ	ɳ	+	NASAL	
p		t	f	t̪						c	k	q									ʔ	-	STOP	
b		d	ɸ	d̪						ɟ	g	ɢ										+		
	pf									kç												-	slit	
										gɻ												+	STOP-STRICTIVE	
		ts								tʃ												-	grooved	
		dʒ								ɟʒ												+		
f	θ									ç	x	χ	ħ									-	slit	
v	ð									ɻ	ɣ	ʁ										+	CONSTRUCTIVE	
		s	ʃ	ʂ	ʃ̄	ʃ̄̄	ʃ̄̄̄																-	grooved
		z	ʒ	ʒ̄	ʒ̄̄	ʒ̄̄̄																+		
ɸ	ʋ	ʊ	ɪ							ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	-	APPROXIMANT	
β	u	ɔ	ɪ							ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	+		
										ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	-	rounded	
										ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	ɸ	+		
B			r													R						+	TRILL	
			r	ɻ																		+	Tap/flap	
		(l)	l	l̪	l̪̄	l̪̄̄	l̪̄̄̄	l̪̄̄̄̄	l̪̄̄̄̄̄	l̪̄̄̄̄̄̄	l̪̄̄̄̄̄̄̄											+	LATERAL	
			ɸ																			-	constrictive	
			ɸ																			+		

**The official revision of the IPA (1989-96): A missed reform**

7.22. In these sections we will try to explain, with as much objectiveness as is humanly possible (since there is a limit to everything), the present situation of the International Phonetic Alphabet. Firstly, we can not help recalling once again that the most fitting formulation which, strictly speaking, correspond to reality should (and it is hoped will continue to) be the <International Phonemic Alphabet>. In fact, as it is now, it does not manage to objectively render the necessary phones

even for just one given language. Should knowledge really be only theoretical, that is abstract, this alphabet would be more than enough! But, seeing that many people can appreciate and use the advantages of practical articulatory phonetics (obviously not separated from theory, provided it is realistic, without frills or glottosophisms), it is clear right from the start that it is necessary to resort to something more systematic and rigorous (and not just vaguely ‹sufficient›). As a matter of fact, we are talking about the more ‹natural› *artistic science*, or about the more ‹general› *scientific art*.

7.23. Enough has been said in the previous sections about the evident vocalic deficiencies of the *offIPA*. Let us merely report one curiosity: during the spread of the reform, in 1989 and 1993, the vocoid [ə] always appeared as [ø]; only in the additions of 1996 the much awaited and required correction was finally made! As far as consonants are concerned, we have already managed to insert a few more with respect to the original setting. Again, we add some further ones in a slightly recast table presented in fig 7.3 (that are those put in a sort of ‹other-symbol› appendix there). In the overall treatment we will use our own more rigorous terminology: so we have the pair of bilabialized grooved prepalatal constrictives [ɕ, ʑ], the grooved velarized postalveolar constrictive [ʝ] (which, less intuitively, the *IPA* used to symbolize with [ʒ], or with the highly ambiguous present-day [ʃ]), which is clearly hastily drawn by some designer who knew nothing about phonetics), the voiced alveolar lateral flap [ɺ], but represented with ‹[ɻ]›, by awkwardly overturning [ɽ], which used to indicate the voiced alveolar slit constrictive [ʂ] (found for Czech ř, or for Sicilian r-).

However, with an incredibly lively imagination, now some ‹epiglottal› consonants appear: ‹[ɧ, ʁ; ʀ]›, respectively: voiced and voiceless constrictives, and voiceless stop, which are actually just the ‹old› pharyngeal [ħ, ʕ] (in *canIPA*, more coherently they are rendered as [ħ, ʕ]: the former is a voiceless constrictive, whereas the latter is a voiced approximant, although in the official table it is still placed and defined as a constrictive). The corresponding stop is added too, [ʀ] (but, in point of fact, five further ones could be added: a voiced stop [ʀ̄], the *true* voiced constrictive [ħ̄], a voiceless approximant [d̄], and the corresponding trills [ɕ̄, ʑ̄]!). While, without bothering the epiglottis (which is there for different bio-physiological purposes), it is possible to add some rarer ‹prepharyngeal› constrictives and approximants, respectively –and more usefully– represented by [ɧ, ʁ] and [d̄, ʕ] (by paying attention to the true value of *canIPA* [ɧ, ʕ], although this is definitely a kind of secondary articulatory area).

As an addition to the official table, we find the funny and awkward way of showing complex articulations by putting bows above (or even under, in the extra reform of 1996): [̣, ̤]: thus a voiceless dental stop [ts] more ‹officially› would be [ṭṣ], which goes canoeing, &c, and a velar-bilabial (or bilabial-velar) stop [kp] officially would be the heliophobous (or pluviophobous) [ḳp̣], &c.

7.24. In an added inset we find ejective contoids, marked (this time, by mutual consent) with an apostrophe, [ʼ], after the appropriate symbols of (voiceless)

stops, stopstrictives, and constrictives: [p', t', k', ts', s']. Surprisingly, voiced injectives (‹implosives›, or ‹preglottalized› contoids) have undergone the unwelcome influence of the (more or less official) orthographies of some African languages, which have in turn derived from old and inconvenient symbols. Thus [b, d, ʃ, ɟ, ɠ] would represent [ʼb, ʼd, ʼɟ/ʼdʒ, ʼg, ʼɠ] (more often, [ɟ] would stand for a postal-veopalatal rounded stopstrictive [ʼdʒ], instead of a palatal stop [ʼɟ]).

It must be noted that, in our system, while ejectives are *followed* by an apostrophe: [C'], injectives are *preceded* by a (vertically) flipped apostrophe: [ʼC]; these are two ways not to confuse the two diacritics and their functions (which do not indicate articulations, but phono-articulatory *types*; thus it is legitimate indeed, in this case, to use actual diacritics): iconically [ʼ] also helps to remind one that with injectives the larynx lowers, whereas it raises, [ʹ], with ejectives.

In 1989, the burning enthusiasm for exotic novelties on the one hand overlooked some surely more useful and necessary things, on the other hand it showed off –not in an appendix, but within the table– a whole absurd series of voiceless injective (‹implosive›) consonants, even with special symbols: [β, ƒ, ɕ, k, ɔ], which luckily had been definitely concealed as early as in 1993!

The same inset ‹presents› us with the colorful symbols for dejective contoids (or ‹clicks›) which are typical of some South African languages: [⊙, |, !, †, ||]; again, these are drawn from makeshift devices to typewrite some of those languages, but completely losing the articulatory link of phonetic reality, which is respected instead by the *canIPA* symbols: [ʼp, ʼtʰ, ʼt, ʼt̥, ʼt̥̥], since their value can be easily inferred, even without technically defining them.

## Official diacritics

7.25. Now we will give an exemplified account of the *offIPA* diacritics. As can be seen, a number of them are decidedly needless, since they are better represented by using symbols of the same rank, instead of ‹conditioned symbols› (by absolutely impracticable small marks above *or* underneath, which are very complicated to combine and print). We have already seen that English itself, the most transcribed language (mainly due to the considerable separation of its present-day orthography from actual pronunciation), arbitrarily has to resort either to [e] or [ɛ], to indicate [ɛ] which is an intermediate vocoid between the values of the two given symbols.

Thus, as we have generously said also in previous sections of this chapter, it seems quite obvious that it is more practical (and more effective for teaching purposes, and more appropriate for descriptions) to have a satisfactorily greater number of ‹basic symbols›, which may be on a par with the others, so that no one of them may be regarded as secondary or inferior because of the diacritics.

We will quickly present them, with indicative comments, for less experienced people. We will also consider (with better general adjustments) the *offIPA* table, already given in fig 7.1, to clearly show its inadequacy and various limitations and serious drawbacks.

## Segmental diacritics

7.26. *Voiceless* (or rather *devoiced*) [◌̥], [◌̚, ◌̜] (which is necessary); *voiced* (or rather with added *voicing*): [◌̬], [◌̭, ◌̮] (more advisably substituted with more realistic notations such as [◌̥, ◌̜] or, if necessary, [z, d], &c); *breathy voiced*: [◌̬̤], [◌̭̤, ◌̮̤]; *creaky voiced*: [◌̬̥], [◌̭̥, ◌̮̥] ([◌̬̥, ◌̮̥] are much better, since [◌̥] brings [ʔ] to mind and thus the participation of the glottis, with irregular vibrations); *aspirated*: [◌̬ʰ], [◌̭ʰ, ◌̮ʰ] (in case [◌̬ʰ, ◌̮ʰ], but better still [◌̬ʰ, ◌̮ʰ] and other more precise possibilities for different degrees of <aspiration> strength).

Besides, *more rounded*: [◌̙], [◌̚] (various *canIPA* vocoids settle the question better); *less rounded*: [◌̘], [◌̚] (various *canIPA* vocoids settle this question better as well); *advanced tongue root*: [◌̠], [◌̡] and *retracted tongue root*: [◌̡], [◌̠] (again, various *canIPA* vocoids settle the question better, and also restoring to these two diacritics the values they very often had earlier [and still have for many non-dominated authors], that is those of the two following signs, in perfect parallel with the further two given soon after), *advanced*: [◌̠], [◌̡] (rather [◌̠], [◌̡]); *retracted*: [◌̠], [◌̡] (which seems to be underlined, so [◌̠], [◌̡] is much better); *raised*: [◌̠], [◌̡, ◌̢]; *lowered*: [◌̠], [◌̡, ◌̣]; *centralized*: [◌̠], [◌̡]; *mid-centralized*: [◌̠], [◌̡] (that is diagonally centralized in the quadrilateral). As we have already said a few times, the richer number of the *canIPA* vowels seems to be more appropriate than the use of these last diacritics.

Furthermore: *syllabic* (or, better, *intense*): [◌̥], [◌̚] (very important); *non-syllabic*: [◌̥], [◌̚] (which is of very little account once we accept a truly phonic conception of syllables, ie phono-syllables, and not morphological-etymological, with grapho-syllables). Then, *linguolabial*: [◌̥], [◌̚] (but [◌̥, ◌̚] seem decidedly less odd and less bat-like); *rotacized*: [◌̥], [◌̚, ◌̜] (but the *canIPA* system has no such vowels, which are better treated as intense laterally contracted approximants, or as sequences of vowels plus such [intense or normal] approximants which are about ten); *labialized*: [◌̥], [◌̚, ◌̜] ([◌̥], [◌̚, ◌̜] are much better); *palatalized*: [◌̥], [◌̚, ◌̜] (again, [◌̥], [◌̚, ◌̜] are much better, even compared to the old [◌̥], which was still better than the new official <solution>); *velarized*: [◌̥], [◌̚, ◌̜] (if anything, [◌̥], [◌̚, ◌̜], for homogeneity and coherence, but [◌̥], [◌̚, ◌̜] are decidedly much better still); *pharyngealized*: [◌̥], [◌̚, ◌̜] (but more often, instead, they are *uvularized*, so generally [◌̥], [◌̚, ◌̜] are sufficient); a velarized *l* is then [◌̥] (but for a uvularized *l*, which is darker to the ear, it is convenient to use [◌̥]); *nasalized*: [◌̥], [◌̚] (very important).

Furthermore, *dental*: [◌̥], [◌̚, ◌̜] (but, [◌̥, ◌̚] are realistically and statistically much more appropriate); *apical*: [◌̥], [◌̚, ◌̜] (much better [◌̥, ◌̚], &c); *laminal*: [◌̥], [◌̚, ◌̜] (according to cases, [◌̥, ◌̚; ◌̚, ◌̜; ◌̚, ◌̜; ◌̚, ◌̜], or something else); among the various *canIPA* symbols there are more satisfying answers (even if we are not considering here all possible cases). Lastly, *nasally released*: [◌̥], [◌̚] (which is better not to use, but to explain clearly); *inaudibly released*: [◌̥], [◌̚] (which could conveniently be used for the previous two cases, to insist on the important difference with *canIPA* [◌̥], [◌̚, ◌̜] = *audibly released*).

## Suprasegmental diacritics

7.27. *Primary stress*: [ˈ], [e] and *secondary stress*: [ˌ], [e]; *long*: [ː], [eː, nː], *half-long*: [ˑ], [eˑ, nˑ], and *extra-short*: [ˑ̥], [e̥] (but, when necessary, a small superscript symbol is better: [e̥]); *syllabic break*: [·], <[i.ækt]> (but instead dots at different heights [as before the <reform>] are ideal for indicating pitch without stress, or the *full stop* for tonemic conclusive intonemes; thus for marking syllabic division a hyphen is more appropriate, <[i-ækt]>, and it is used at the end of a line too, but sometimes, as here, a stress symbol is sufficient <[iːækt]>); *minor (foot) group*: [||]; *major (intonation) group*: [|||]; *linking (absence of a break)*: [⏟].

Again, also for intonation, the *canIPA* signs are decidedly more complete and satisfying, and less ambiguous too. Before the <reform> a similar system was official, although not so complete.

## Official tones & word accents

7.28. LEVEL (OR CONSTANT) – *extra-high*: [ˈ], [ó], [ʰ] (rather [ˈ]); *high*: [ˊ], [ó], [ʰ] (rather [ˊ]); *mid*: [ˊ̇], [ō], [ʰ̇] (rather [ˊ̇]); *low*: [ˊ̇̇], [ò], [ʰ̇̇] (rather [ˊ̇̇]); *extra-low*: [ˊ̇̇̇], [ò̇], [ʰ̇̇̇] (rather [ˊ̇̇̇]). Among the *canIPA* signs we also have [ˊ̇] *semi-high* and [ˊ̇̇̇] *semi-low*. CONTOUR (OR COMPOUND) – *rising*: [ˊ̇], [ó̇], [ʰ̇] (rather [ˊ̇]); *falling*: [ˊ̇̇], [ô̇], [ʰ̇̇] (rather [ˊ̇̇]); *high rising*: [ˊ̇̇], [ó̇̇], [ʰ̇̇] (rather [ˊ̇̇̇]); *low rising*: [ˊ̇̇̇], [ò̇̇], [ʰ̇̇̇] (rather [ˊ̇̇̇]); *rising-falling*: [ˊ̇̇̇], [ô̇̇̇], [ʰ̇̇̇̇] (rather [ˊ̇̇̇̇]). Utterance pitch diacritics – *downstep*: [↓] and *upstep*: [↑], *global rise*: [↗] and *global fall*: [↘]. (As many other intonation characteristics, even these can be shown better using the *canIPA* system.)

Furthermore, we have to recall that, also for level or contour tones, there are several other possibilities and combinations (which can adequately be expressed using *canIPA* symbols, without any problems) in addition to those indicated by the official source. However, too many people have considered them to be thorough and complete; on the contrary – alas! – even further things such as [ô̇, ð̇, ô̇, ô̇, ô̇, ô̇, ô̇, ô̇, ô̇, ô̇] would be official... Equally, many people have thought they had to use the so-called <tone-letters> also within uninterrupted transcriptions, producing then such masterpieces as [jaʔpɔŋʔɣuɔwɛnʔsouʔ] (even with spaces between syllables it would not be correct: [jaʔ pɔŋʔ ɣuɔwɛnʔ souʔ]). Tone-letters may have a certain practical functionality to show ton(em)es in isolation, since the vertical bar is a constant point of reference, especially in handwritten samples; but generally (square) brackets are sufficient and even better for this function.

As far as *intonation* is concerned, the official reform has practically ignored it, by supplying only phonemic and tonemic signs, and only for tonemes; but nothing more.

7.29. In conclusion, this is the story of a reform carried out very badly. But, given that it is something official, very many misinformed people have accepted it as complete and even satisfactory, by going so far as to adapt the reality of languages to the <official> chart. Too many books and articles have been published where Ital-

ian (and many other languages) would have ⟨alveolar⟩ [t, d; tʃ, dʒ; s, z] (ie [t, d; tʃ, dʒ; s, z]) and ⟨postalveolar⟩ [tʃ, dʒ; ʃ, ʒ] (ie [tʃ, dʒ; ʃ, ʒ]!), since the unfortunate official table of consonants under *dental* seems to locate only [θ, ð]. Also [æ, a] are misleadingly placed, as we have already said, but many people continue to believe that statements such as those are true (while they are clearly not so), although it would be quite easy to settle the matter once and for all, by simply doing some actual articulatory and auditory phonetics, which cannot be substituted by acoustic phonetics, since all the most sophisticated instruments of this world cannot do anything at all, especially if the only possible references are based on ⟨deskwork phonetics⟩! However, even acoustic analyses have demonstrated that [æ] is really low front.

To finish, after well-pondered reflection, we decided to provide an almost complete table of the *canIPA* contoids, fig 10.1 (while vocoids are also given in fig 7.2). This has been done both in order to encourage (perhaps even to reward – ¿why not?) the most interested people, and to discourage (and to caution in time) the *less* interested –and above all the *non*-interested– people. In fact, nobody obliges us to study these things in depth, except for a real personal, social, professional, and cultural interest (and more still).

Although these symbols are undoubtedly many, they have the clear advantage that, once one has entered the spirit of *natural phonetics* (ie articulatory, auditory and functional), the value of each symbol is easy to ascertain, according to its position in the table and to the values of nearby symbols, although they do not include the whole of our articulatory figures (ie orograms) for every symbol (but in  $\mathbb{C}$  10 they are all shown). It is obvious, however, that a keen interest is necessary, together with sheer perseverance and systematic personal, articulatory and auditory training, also using a (good) taperecorder with earphones.

### About non-IPA alphabets

7.30. Moving back to provincial alphabets, which as we have said ⟨disseminate⟩ many diacritics to indicate timbres, which would be more logically expressed with unitary and ⟨primary⟩ symbols: none of them would be a second-class symbol. Let us make an extreme case to show their limitations: *IPA* [œ] is generally rendered as ø, and [œ̃] = ø̃, often [œ̃] = ø̃, and consequently [œ̃] = ø̃, and [œ̃:] = ø̃! The *IPA* convention of putting [ˈ] before a whole stressed syllable has the obvious advantage of not making notations heavier while simplifying reading; it also shows (phono)syllabic boundaries, which is often of fundamental importance both for pronunciation and actual understanding of transcriptions.

Let us pass over the various traditional terminologies, which are often pure fantasy or based on unscientific misbeliefs (cf the observation at § 1.7). Certainly, they do not make comparisons between different alphabets easy. Indeed, in the case of these alphabets it would not be useful to present vocalic and consonantal tables, like those we have seen for the *IPA*, since they are even poorer and more arbitrary. Therefore, we will just give some lists of correspondences, to help the readers; but

we must make it clear at once that often symbols and diacritics are used with little skill and even less attention (not only by typesetters).

In order to do this, and just this once, we will adapt ourselves to misleading graphemic criteria; as a matter of fact, those who consider phonetic symbols like alphabetic letters are doomed to failure, since they remain bound to the values each letter has in their own language. For all these, phonetic (and even phonemic) transcriptions are an awful nuisance they would be glad to avoid. Indeed, sometimes this is preferable, since when they find they have to make a transcription, the results are, to say the least, picturesque. In this way, monumental errors are spread, and incredible phonic beliefs arise which are often groundless but spread as widely as epidemics, and afterwards are difficult to fight and correct.

Let us give a notorious example: Mandarin Chinese phonology has been undermined for practically a century by a very strange belief about two alleged <apical vowels> which Karlgren in 1915 represented as  $\imath$  and  $\imath'$ , referring to our [u, ʉ]; the former is a high back-central (unrounded) vocoid, whereas the latter is an intense postalveolar approximant. Even *Pinyin* (the official romanized spelling for Mandarin) has been misled, and in fact uses *i* for [i, u, ʉ], because they are all interpreted as belonging to one phoneme /i/, so that [u] occurs after /ts, tsh, s/, [ʉ] after /tʂ, tʂh, ʂ, ʃ/, and [i] after any other consonant, including </tʂ, tʂh, ʂ/>. In our analysis (cf Ch 11 of the *HPr*) we have /ts, tsh, s/+/u/ [u], /tʂ, tʂh, ʂ, ʃ/+/ʉ/ [ʉ], and (for any other C) /C/+/i/ [i] (including /ts, tsh, s/ → [tʂ, tʂh, ʂ], by assimilation). Regardless of the particular phonological interpretations chosen, the actual phonetic facts are that we have [i, u, ʉ], as acoustic analyses also show. Instead, most descriptions are still based on Karlgren beliefs and have to force the facts to match the position according to which *i* /i/ would have the variants  $\imath$  and  $\imath'$  (even placed on actual trapeziums near /i, y/, as if they really were <apicalized> and <retroflexed> [i]!). In an article unfortunately published in the *Journal of the International Phonetic Association* (2003), they are both transcribed as <[ɿ]> and described as <(apico-)laminal denti-alveolar> (where no groove is mentioned, of course) and <apical post-alveolar> approximants respectively. The latter is correctly described (ie *can*[ʉ]), while the former is still not (ie *can*[δ]); there is a great (articulatory, auditory, and acoustic) difference between [δ] and [u].

7.31. Scholars and students of linguistic subjects, such as language history, philology, dialectology, glottology and linguistics (and further subdivisions) ought to be able to skillfully use different phonetic alphabets, managing to pass from one to another without big problems, except for the ambiguities inevitably caused by the lack of scientific bases of many of these alphabets. Even mental idleness, which make people stick to questionable definitions and representations, does not seem to be justifiable at all. Actually, even those who are mainly interested in linguistic evolution, lexicology or lexicography (perhaps of dialects), or morphosyntax, or other linguistic aspects, should not ignore phonetic notation and its careful uses.

It might seem logical and necessary to think that <intellectuals> in general, and especially those who devote themselves to linguistic subjects, first of all should care—with loving conviction—for the phonic aspect of their own language (and even

of others). Unfortunately, reality is gloomier: the implacable enemies of language are often exactly those people who unashamedly (or even unawaresly) misrepresent it. And what to say about transcriptions using capital letters at the beginning of sentences or for names?! Still such mistakes are found even in linguistics books and grammars written by university <experts> –not by novices!– and not only in the first printing of the first edition...

While even children, whether they are exposed to phonetics or not, know that <sounds can not be upper-case, so much so that there is no difference between *frank* and *Frank*, or *smith* and *Smith*, which are /<sup>f</sup>ræŋk/ and /<sup>s</sup>smiθ/ in any case> (leaving aside... *randy* and *Randy*), certain books <present> things such as \*/<sup>H</sup>u: ɪz <sup>K</sup>eɪt/, instead of /<sup>h</sup>u:z <sup>k</sup>eɪt/ (or at least /<sup>h</sup>u: ɪz <sup>k</sup>eɪt/) *Who is Kate?*

### Comparison with the main non-IPA symbols used in Romance studies

7.32. Since there are so many different symbols, in different publications, often even by one and the same author, it will not be useless to show (*in italics*) the main

<i>a</i>	[a]	<i>ħ, χ</i>	[ç]	<i>r</i>	[r/r]
<i>ä</i>	[æ/A]	<i>i</i>	[i/i/ɪ/ɪ̃]	<i>ɾ</i>	[ɾ, ɾ] **
<i>â</i>	[ɑ/ɐ/ʌ]	<i>î</i>	[i/ɪ]	<i>ʀ</i>	[ʀ/ʁ/ʁ]
<i>â, ã</i>	[ã]...	<i>ï</i>	[ɪ/ɨ]	<i>s</i>	[s/s]
<i>ā, al</i>	[a:]...	<i>î</i>	[j(V), (V)i]	<i>ś</i>	[ʃ/ʃ, z/z]
<i>b</i>	[b]	<i>ï</i>	[ɨ/ɨ]	<i>š</i>	[ʃ/ʃ, ʃ]
<i>ɸ, ɸ, β</i>	[β]	<i>j</i>	[j/i/gj]	<i>ʒ, ʒ</i>	[ʒ]
<i>č, č</i>	[tʃ/tʃ]	<i>k</i>	[k]	<i>ʒ̃</i>	[z/z]
<i>č̣</i>	[kç/c]	<i>l</i>	[l]	<i>ʒ̄</i>	[z/z]
<i>č̇</i>	[kç̣/c̣]	<i>ł</i>	[ɫ]	<i>t</i>	[t/t/ɸ]
<i>č̈</i>	[kç̈/c̈]	<i>ł, ł</i>	[ɫ/ɫ]	<i>Ț</i>	[t/t]
<i>č̉</i>	[kç̉/c̉]	<i>ł̣</i>	[ɫ̣]	<i>Ț, Ț</i>	[ṭ/ṭ]
<i>č̊</i>	[kç̊/c̊]	<i>m</i>	[m]	<i>Ț̣</i>	[ṭ̣/c̣̣]
<i>č̋</i>	[kç̋/c̋]	<i>n</i>	[n]	<i>u</i>	[u/u/o/μ]
<i>č̌</i>	[kç̌/č]	<i>ṅ</i>	[ṅ]	<i>u̇</i>	[u/μ]
<i>č̍</i>	[kç̍/c̍]	<i>n̈</i>	[n̈]	<i>ü</i>	[u/o]
<i>č̎</i>	[kç̎/c̎]	<i>n̉</i>	[n̉]	<i>ủ</i>	[w(V), (V)u]
<i>č̏</i>	[kç̏/c̏]	<i>o</i>	[o/σ]	<i>ü</i>	[y/y]
<i>č̐</i>	[kç̐/c̐]	<i>ȯ</i>	[ȯ]	<i>ÿ</i>	[y/Y]
<i>č̑</i>	[kç̑/c̑]	<i>ö</i>	[ö]	<i>ÿ̇</i>	[y/ÿ]
<i>č̒</i>	[kç̒/c̒]	<i>ỏ</i>	[ỏ]	<i>v</i>	[v]
<i>č̓</i>	[kç̓/c̓]	<i>o̊</i>	[o̊]	<i>z</i>	[ts/ts]
<i>č̔</i>	[kç̔/c̔]	<i>ő</i>	[ő]	<i>ż</i>	[θ/tθ]
<i>č̕</i>	[kç̕/c̕]	<i>ǒ</i>	[ǒ]	<i>ž</i>	[ʒ]
<i>č̖</i>	[kç̖/c̖]	<i>o̍</i>	[o̍]	<i>ž, ž, ž</i>	[dʒ/dʒ]
<i>č̗</i>	[kç̗/c̗]	<i>o̎</i>	[o̎]	<i>ž̇</i>	[ð/dð]
<i>č̘</i>	[kç̘/c̘]	<i>ȍ</i>	[ȍ]		
<i>č̙</i>	[kç̙/c̙]	<i>o̐</i>	[o̐]		
<i>č̚</i>	[kç̚/c̚]	<i>ȏ</i>	[ȏ]		
<i>č̛</i>	[kç̛/c̛]	<i>o̒</i>	[o̒]		
<i>č̜</i>	[kç̜/c̜]	<i>o̓</i>	[o̓]		
<i>č̝</i>	[kç̝/c̝]	<i>o̔</i>	[o̔]		
<i>č̞</i>	[kç̞/c̞]	<i>o̕</i>	[o̕]		
<i>č̟</i>	[kç̟/c̟]	<i>o̖</i>	[o̖]		
<i>č̠</i>	[kç̠/c̠]	<i>o̗</i>	[o̗]		
<i>č̡</i>	[kç̡/c̡]	<i>o̘</i>	[o̘]		
<i>č̢</i>	[kç̢/c̢]	<i>o̙</i>	[o̙]		
<i>č̣</i>	[kç̣/c̣]	<i>o̚</i>	[o̚]		
<i>č̤</i>	[kç̤/c̤]	<i>ơ</i>	[ơ]		
<i>č̥</i>	[kç̥/c̥]	<i>o̜</i>	[o̜]		
<i>č̦</i>	[kç̦/c̦]	<i>o̝</i>	[o̝]		
<i>ç̌</i>	[kç̧/ç]	<i>o̞</i>	[o̞]		
<i>č̨</i>	[kç̨/c̨]	<i>o̟</i>	[o̟]		
<i>č̩</i>	[kç̩/c̩]	<i>o̠</i>	[o̠]		
<i>č̪</i>	[kç̪/c̪]	<i>o̡</i>	[o̡]		
<i>č̫</i>	[kç̫/c̫]	<i>o̢</i>	[o̢]		
<i>č̬</i>	[kç̬/c̬]	<i>ọ</i>	[ọ]		
<i>č̭</i>	[kç̭/c̭]	<i>o̤</i>	[o̤]		
<i>č̮</i>	[kç̮/c̮]	<i>o̥</i>	[o̥]		
<i>č̯</i>	[kç̯/c̯]	<i>o̦</i>	[o̦]		
<i>č̰</i>	[kç̰/c̰]	<i>o̧</i>	[o̧]		
<i>č̱</i>	[kç̱/c̱]	<i>ǫ</i>	[ǫ]		
<i>č̲</i>	[kç̲/c̲]	<i>o̩</i>	[o̩]		
<i>č̳</i>	[kç̳/c̳]	<i>o̪</i>	[o̪]		
<i>č̴</i>	[kç̴/c̴]	<i>o̫</i>	[o̫]		
<i>č̵</i>	[kç̵/c̵]	<i>o̬</i>	[o̬]		
<i>č̶</i>	[kç̶/c̶]	<i>o̭</i>	[o̭]		
<i>č̷</i>	[kç̷/c̷]	<i>o̮</i>	[o̮]		
<i>č̸</i>	[kç̸/c̸]	<i>o̯</i>	[o̯]		
<i>č̹</i>	[kç̹/c̹]	<i>o̰</i>	[o̰]		
<i>č̺</i>	[kç̺/c̺]	<i>o̱</i>	[o̱]		
<i>č̻</i>	[kç̻/c̻]	<i>o̲</i>	[o̲]		
<i>č̼</i>	[kç̼/c̼]	<i>o̳</i>	[o̳]		
<i>č̽</i>	[kç̽/c̽]	<i>o̴</i>	[o̴]		
<i>č̾</i>	[kç̾/c̾]	<i>o̵</i>	[o̵]		
<i>č̿</i>	[kç̿/c̿]	<i>o̶</i>	[o̶]		
<i>č̀</i>	[kç̀/c̸]	<i>o̷</i>	[o̷]		
<i>č́</i>	[kḉ/c̸]	<i>o̸</i>	[o̸]		
<i>č̂</i>	[kç̂/c̸]	<i>o̹</i>	[o̹]		
<i>č̃</i>	[kç̃/c̸]	<i>o̺</i>	[o̺]		
<i>č̄</i>	[kç̄/c̸]	<i>o̻</i>	[o̻]		
<i>č̅</i>	[kç̅/c̸]	<i>o̼</i>	[o̼]		
<i>č̆</i>	[kç̆/c̸]	<i>o̽</i>	[o̽]		
<i>č̇</i>	[kç̇/c̸]	<i>o̾</i>	[o̾]		
<i>č̈</i>	[kç̈/c̸]	<i>o̿</i>	[o̿]		
<i>č̉</i>	[kç̉/c̸]	<i>o͇</i>	[o͇]		
<i>č̊</i>	[kç̊/c̸]	<i>o͈</i>	[o͈]		
<i>č̋</i>	[kç̋/c̸]	<i>o͉</i>	[o͉]		
<i>č̌</i>	[kç̌/c̸]	<i>o͊</i>	[o͊]		
<i>č̍</i>	[kç̍/c̸]	<i>o͋</i>	[o͋]		
<i>č̎</i>	[kç̎/c̸]	<i>o͌</i>	[o͌]		
<i>č̏</i>	[kç̏/c̸]	<i>o͍</i>	[o͍]		
<i>č̐</i>	[kç̐/c̸]	<i>o͎</i>	[o͎]		
<i>č̑</i>	[kç̑/c̸]	<i>o͏</i>	[o͏]		
<i>č̒</i>	[kç̒/c̸]	<i>o͐</i>	[o͐]		
<i>č̓</i>	[kç̓/c̸]	<i>o͑</i>	[o͑]		
<i>č̔</i>	[kç̔/c̸]	<i>o͒</i>	[o͒]		
<i>č̕</i>	[kç̕/c̸]	<i>o͓</i>	[o͓]		
<i>č̖</i>	[kç̖/c̸]	<i>o͔</i>	[o͔]		
<i>č̗</i>	[kç̗/c̸]	<i>o͕</i>	[o͕]		
<i>č̘</i>	[kç̘/c̸]	<i>o͖</i>	[o͖]		
<i>č̙</i>	[kç̙/c̸]	<i>o͗</i>	[o͗]		
<i>č̚</i>	[kç̚/c̸]	<i>o͘</i>	[o͘]		
<i>č̛</i>	[kç̛/c̸]	<i>o͙</i>	[o͙]		
<i>č̜</i>	[kç̜/c̸]	<i>o͚</i>	[o͚]		
<i>č̝</i>	[kç̝/c̸]	<i>o͛</i>	[o͛]		
<i>č̞</i>	[kç̞/c̸]	<i>o͜</i>	[o͜]		
<i>č̟</i>	[kç̟/c̸]	<i>o͝</i>	[o͝]		
<i>č̠</i>	[kç̠/c̸]	<i>o͞</i>	[o͞]		
<i>č̡</i>	[kç̡/c̸]	<i>o͟</i>	[o͟]		
<i>č̢</i>	[kç̢/c̸]	<i>o͠</i>	[o͠]		
<i>č̣</i>	[kç̣/c̸]	<i>o͡</i>	[o͡]		
<i>č̤</i>	[kç̤/c̸]	<i>o͢</i>	[o͢]		
<i>č̥</i>	[kç̥/c̸]	<i>oͣ</i>	[oͣ]		
<i>č̦</i>	[kç̦/c̸]	<i>oͤ</i>	[oͤ]		
<i>ç̌</i>	[kç̧/c̸]	<i>oͥ</i>	[oͥ]		
<i>č̨</i>	[kç̨/c̸]	<i>oͦ</i>	[oͦ]		
<i>č̩</i>	[kç̩/c̸]	<i>oͧ</i>	[oͧ]		
<i>č̪</i>	[kç̪/c̸]	<i>oͨ</i>	[oͨ]		
<i>č̫</i>	[kç̫/c̸]	<i>oͩ</i>	[oͩ]		
<i>č̬</i>	[kç̬/c̸]	<i>oͪ</i>	[oͪ]		
<i>č̭</i>	[kç̭/c̸]	<i>oͫ</i>	[oͫ]		
<i>č̮</i>	[kç̮/c̸]	<i>oͬ</i>	[oͬ]		
<i>č̯</i>	[kç̯/c̸]	<i>oͭ</i>	[oͭ]		
<i>č̰</i>	[kç̰/c̸]	<i>oͮ</i>	[oͮ]		
<i>č̱</i>	[kç̱/c̸]	<i>oͯ</i>	[oͯ]		
<i>č̲</i>	[kç̲/c̸]	<i>oͰ</i>	[oͰ]		
<i>č̳</i>	[kç̳/c̸]	<i>oͱ</i>	[oͱ]		
<i>č̴</i>	[kç̴/c̸]	<i>oͲ</i>	[oͲ]		
<i>č̵</i>	[kç̵/c̸]	<i>oͳ</i>	[oͳ]		
<i>č̶</i>	[kç̶/c̸]	<i>oʹ</i>	[oʹ]		
<i>č̷</i>	[kç̷/c̸]	<i>o͵</i>	[o͵]		
<i>č̸</i>	[kç̸/c̸]	<i>oͶ</i>	[oͶ]		
<i>č̹</i>	[kç̹/c̸]	<i>oͷ</i>	[oͷ]		
<i>č̺</i>	[kç̺/c̸]	<i>o͸</i>	[o͸]		
<i>č̻</i>	[kç̻/c̸]	<i>o͹</i>	[o͹]		
<i>č̼</i>	[kç̼/c̸]	<i>oͺ</i>	[oͺ]		
<i>č̽</i>	[kç̽/c̸]	<i>oͻ</i>	[oͻ]		
<i>č̾</i>	[kç̾/c̸]	<i>oͼ</i>	[oͼ]		
<i>č̿</i>	[kç̿/c̸]	<i>oͽ</i>	[oͽ]		
<i>č̀</i>	[kç̀/c̸]	<i>o̸</i>	[o̸]		
<i>č́</i>	[kḉ/c̸]	<i>o̹</i>	[o̹]		
<i>č̂</i>	[kç̂/c̸]	<i>o̺</i>	[o̺]		
<i>č̃</i>	[kç̃/c̸]	<i>o̻</i>	[o̻]		
<i>č̄</i>	[kç̄/c̸]	<i>o̼</i>	[o̼]		
<i>č̅</i>	[kç̅/c̸]	<i>o̽</i>	[o̽]		
<i>č̆</i>	[kç̆/c̸]	<i>o̾</i>	[o̾]		
<i>č̇</i>	[kç̇/c̸]	<i>o̿</i>	[o̿]		
<i>č̈</i>	[kç̈/c̸]	<i>o͇</i>	[o͇]		
<i>č̉</i>	[kç̉/c̸]	<i>o͈</i>	[o͈]		
<i>č̊</i>	[kç̊/c̸]	<i>o͉</i>	[o͉]		
<i>č̋</i>	[kç̋/c̸]	<i>o͊</i>	[o͊]		
<i>č̌</i>	[kç̌/c̸]	<i>o͋</i>	[o͋]		
<i>č̍</i>	[kç̍/c̸]	<i>o͌</i>	[o͌]		
<i>č̎</i>	[kç̎/c̸]	<i>o͍</i>	[o͍]		
<i>č̏</i>	[kç̏/c̸]	<i>o͎</i>	[o͎]		
<i>č̐</i>	[kç̐/c̸]	<i>o͏</i>	[o͏]		
<i>č̑</i>	[kç̑/c̸]	<i>o͐</i>	[o͐]		
<i>č̒</i>	[kç̒/c̸]	<i>o͑</i>	[o͑]		
<i>č̓</i>	[kç̓/c̸]	<i>o͒</i>	[o͒]		
<i>č̔</i>	[kç̔/c̸]	<i>o͓</i>	[o͓]		
<i>č̕</i>	[kç̕/c̸]	<i>o͔</i>	[o͔]		
<i>č̖</i>	[kç̖/c̸]	<i>o͕</i>	[o͕]		
<i>č̗</i>	[kç̗/c̸]	<i>o͖</i>	[o͖]		
<i>č̘</i>	[kç̘/c̸]	<i>o͗</i>	[o͗]		
<i>č̙</i>	[kç̙/c̸]	<i>o͘</i>	[o͘]		
<i>č̚</i>	[kç̚/c̸]	<i>o͙</i>	[o͙]		
<i>č̛</i>	[kç̛/c̸]	<i>o͚</i>	[o͚]		
<i>č̜</i>	[kç̜/c̸]	<i>o͛</i>	[o͛]		
<i>č̝</i>	[kç̝/c̸]	<i>o͜</i>	[o͜]		
<i>č̞</i>	[kç̞/c̸]	<i>o͝</i>	[o͝]		
<i>č̟</i>	[kç̟/c̸]	<i>o͞</i>	[o͞]		
<i>č̠</i>	[kç̠/c̸]	<i>o͟</i>	[o͟]		
<i>č̡</i>	[kç̡/c̸]	<i>o͠</i>	[o͠]		
<i>č̢</i>	[kç̢/c̸]	<i>o͡</i>	[o͡]		
<i>č̣</i>	[kç̣/c̸]	<i>o͢</i>	[o͢]		
<i>č̤</i>	[kç̤/c̸]	<i>oͣ</i>	[oͣ]		
<i>č̥</i>	[kç̥/c̸]	<i>oͤ</i>	[oͤ]		
<i>č̦</i>	[kç̦/c̸]	<i>oͥ</i>	[oͥ]		
<i>ç̌</i>	[kç̧/c̸]	<i>oͦ</i>	[oͦ]		
<i>č̨</i>	[kç̨/c̸]	<i>oͧ</i>	[oͧ]		
<i>č̩</i>	[kç̩/c̸]	<i>oͨ</i>	[oͨ]		
<i>č̪</i>	[kç̪/c̸]	<i>oͩ</i>	[oͩ]		
<i>č̫</i>	[kç̫/c̸]	<i>oͪ</i>	[oͪ]		
<i>č̬</i>	[kç̬/c̸]	<i>oͫ</i>	[oͫ]		
<i>č̭</i>	[kç̭/c̸]	<i>oͬ</i>	[oͬ]		
<i>č̮</i>	[kç̮/c̸]	<i>oͭ</i>	[oͭ]		
<i>č̯</i>	[kç̯/c̸]	<i>oͮ</i>	[oͮ]		
<i>č̰</i>	[kç̰/c̸]	<i>oͯ</i>	[oͯ]		
<i>č̱</i>	[kç̱/c̸]	<i>oͰ</i>	[oͰ]		
<i>č̲</i>	[kç̲/c̸]	<i>oͱ</i>	[oͱ]		
<i>č̳</i>	[kç̳/c̸]	<i>oͲ</i>	[oͲ]		
<i>č̴</i>	[kç̴/c̸]	<i>oͳ</i>	[oͳ]		
<i>č̵</i>	[kç̵/c̸]	<i>oʹ</i>	[oʹ]		
<i>č̶</i>	[kç̶/c̸]	<i>o͵</i>	[o͵]		
<i>č̷</i>	[kç̷/c̸]	<i>oͶ</i>	[oͶ]		
<i>č̸</i>	[kç̸/c̸]	<i>oͷ</i>	[oͷ]		
<i>č̹</i>	[kç̹/c̸]	<i>o͸</i>	[o͸]		
<i>č̺</i>	[kç̺/c̸]	<i>o͹</i>	[o͹]		
<i>č̻</i>	[kç̻/c̸]	<i>oͺ</i>	[oͺ]		
<i>č̼</i>	[kç̼/c̸]	<i>oͻ</i>	[oͻ]		
<i>č̽</i>	[kç̽/c̸]	<i>oͼ</i>	[oͼ]		
<i>č̾</i>	[kç̾/c̸]	<i>oͽ</i>	[oͽ]		
<i>č̿</i>	[kç̿/c̸]	<i>o̸</i>	[o̸]		
<i>č̀</i>	[kç̀/c̸]	<i>o̹</i>	[o̹]		
<i>č́</i>	[kḉ/c̸]	<i>o̺</i>	[o̺]		
<i>č̂</i>	[kç̂/c̸]	<i>o̻</i>	[o̻]		
<i>č̃</i>	[kç̃/c̸]	<i>o̼</i>	[o̼]		
<i>č̄</i>					

variants, at least for the most important and frequent sounds. Several variants are clumsy and ambiguous, others have very different values from the *IPA* ones (as: [z, ʒ, ʒ, c, y, χ, ʃ]). At first, it might seem that things are uselessly more complicated.

The most important thing, however, is to consider every symbol as an attempt to overcome the ambiguities implied by traditional orthographies. In addition, as we have already said, even symbols severely suffer from typographical and imaginative limitations, which often <force> one to make inappropriate choices or not to choose. The first list (ie from italics to *IPA*) is intentionally more limited. Roman symbols are *offIPA* (and also *canIPA*) symbols, those in italics (in the second list, ie

[i]	<i>ī ī ī</i>	[u]	<i>ü y r</i>		<i>dʃ dʃ dʃ ʃ ʃ ʃ</i>
[ɪ]	<i>ī ī ī ī ī ī</i>	[ʊ]	<i>u ü r o ü</i>	[ʃ]	<i>š š é é é</i>
[e]	<i>ē ē ē</i>	[ø]	<i>o ø ö ə</i>	[ʒ]	<i>ʒ ʒ ʒ ʒ ʒ ʒ</i>
[ɛ]	<i>e ê ë</i>	[ɘ]	<i>ə ø ö ə ə</i>	[ç]	<i>h h' h' h' χ x' y' χ</i>
[ɛ̃]	<i>ē ē ē è e</i>	[æ]	<i>æ ö z v a ɔ</i>	[j]	<i>J J j y</i>
[æ̃]	<i>ε ε ë ä a a</i>	[ɶ]	<i>æ ö v ɔ v</i>	[c/kç]	<i>k ʔ t' t' t' t' t' h' t' h' č č h</i>
					<i>k' c</i>
[ɪ̃]	<i>ī ī ī ī ī ī ī</i>	[μ]	<i>u ü u u</i>	[ʃ/gj]	<i>g ʃ d' f d' d' d' j ǰ ǰ</i>
[ɪ̄]	<i>ī ī ī ī ī ī ī</i>	[ω]	<i>u v w</i>		<i>ǰ ǰ ǰ</i>
[ə̄]	<i>ī ī ī ī ī ī ī ē ē ē ē ē</i>	[ō]	<i>o ö ø</i>	[k]	<i>k k</i>
[ɛ̄]	<i>e e ə ē ē ē ē ē</i>	[ō]	<i>o ɔ ö</i>	[g]	<i>g ǰ ǰ</i>
[ā]	<i>ε ə ē ē è è e ä</i>	[ə̄]	<i>ɔ ö ə</i>	[x]	<i>h h h' χ χ x' c k h k k</i>
[A]	<i>æ a q a à a ä ē</i>	[x̄]	<i>ɔ ö a v o ɔ α a â â</i>	[ɣ]	<i>g ǰ j j g h</i>
				[h]	<i>h</i>
[ī]	<i>ī j ī ī ī j</i>	[ū]	<i>u ú û ū u</i>	[h̄]	<i>h' h</i>
[ɪ̄]	<i>ī j ī ī ī j ī ē ē ē ē ē</i>	[ʊ̄]	<i>u u u ú û ù ũ ɔ</i>		
[ə̄]	<i>ē ē ē ē ä &amp;</i>	[ō]	<i>o ó ɔ</i>	[ŋ]	<i>n m ŋ n</i>
[ɜ̄]	<i>ē ē ē ē ä v ə &amp;</i>	[σ]	<i>o ɔ ó ò ô ɔ</i>	[ɲ]	<i>n ŋ ɲ ɲ n, n' n' n' n'</i>
[ɛ̄]	<i>a q a ä ə</i>	[ɔ̄]	<i>o ɔ ɔ ò ω v o</i>		<i>ñ</i>
[ā]	<i>q q à a</i>	[ɔ̄]	<i>v o ɔ à ɔ v o</i>	[ɲ̄]	<i>ñ n n' n' n' n' n' n'</i>
				[ŋ̄]	<i>n η n̄ n̄</i>
[ū]	<i>ī j ū ú ū u</i>	[Φ]	<i>φ p p̄ p̄</i>	[ʃ̄]	<i>l l l' l' l' l' l' t</i>
[ū]	<i>u ī j u v ə</i>	[β]	<i>b b b̄</i>	[ʎ]	<i>l' l' l' l' l' l' l' l' l'</i>
[ɤ̄]	<i>ə u v ī j ē</i>	[pʃ]	<i>p f f̄ p̄</i>	[ʃ̄]	<i>l l</i>
[x̄]	<i>x ə z v ə ē</i>	[bv]	<i>b v v̄ b̄</i>	[r]	<i>r r̄ R</i>
[Ā]	<i>v ə z ə ē</i>	[θ]	<i>θ ð t̄ t̄ z s t̄</i>	[r̄]	<i>r r ρ</i>
[ā]	<i>a ə a q â â á</i>	[ð]	<i>ð ð ð d h z z</i>	[R̄]	<i>r r̄ ρ</i>
		[ʃ̄]	<i>θ t̄ s̄</i>	[ɛ̄]	<i>r r̄ r̄ ρ</i>
[Ā]	<i>a v ə z a ə â â a v ɔ</i>	[ð̄]	<i>ð ð ð z̄</i>	[j̄]	<i>y j̄ i i</i>
[ᾱ]	<i>q â â á a ə a v ɔ</i>	[ts̄]	<i>t s̄ t z z c z z</i>	[w̄]	<i>u ũ u</i>
		[dz̄]	<i>d z̄ z̄ d s̄ d z̄ z̄ z̄ z̄ z̄</i>	[ɥ̄]	<i>ü ü ü y</i>
			<i>z̄ z̄ z̄</i>		
[Ȳ]	<i>y y r</i>	[s̄]	<i>s</i>	[ā]	<i>'a 'a á à a' a'</i>
[ɥ̄]	<i>y r y</i>	[s̄]	<i>s s̄ s̄ s'</i>	[ā]	<i>,a ,a à a a' a''</i>
		[z̄]	<i>z s̄ s̄ s̄ s̄ s̄</i>	[ȭ]	<i>ô o^n</i>
[ȳ]	<i>ü u</i>	[z̄]	<i>z z̄ z̄ z' f f</i>	[o:̄]	<i>o: o/ oo o o'</i>
[Ȳ]	<i>ü ü u</i>			[ŋ̄]	<i>ə n ŋ</i>
[ø̄]	<i>ö ø æ</i>	[tʃ̄]	<i>t f s̄ c̄ c̄ c̄ c̄ t̄ s̄ t̄ s'</i>	[n̄]	<i>ŋ</i>
[ø̄]	<i>æ ö ø ö ø</i>		<i>ê s̄</i>		
[œ̄]	<i>ö ø ö</i>			[œ:̄]	<i>é ø' n</i>
[œ̄]	<i>æ ø ö ö</i>	[dʒ̄]	<i>d z̄ z̄ ǰ ǰ ʃ ʃ ǰ ǰ d z̄</i>		

from *IPA* to the others, § 7.33) include also some of their previous versions and several taken from non-*IPA* alphabets (as they are often mixed).

Let us then carry on this pathetic operation (square brackets contain *offIPA* or *canIPA* symbols). Symbols are ⟨rigorously given in alphabetical order⟩, mixing vowels and consonants, and with no distinction among manners of articulation. Of course, here we are doing this to demonstrate how a graphic-mnemonic approach to phonetic symbols is difficult and unfruitful. In fact, the most profitable way obviously is *from sounds to symbols* (using the more appropriate ones).

### From a couple of *IPA* to many different non-*IPA*'s

7.33. We will provide here (on the next page) the variants of some phonetic symbols, starting from the (*can*)*IPA* values to reach several different alphabets, among the most widely used ones. It is important to note that there is no necessary correspondence with those just seen. As a further ⟨sadistic⟩ contrast, we will continue according to scientific categories, within the basic subdivision between vowels and consonants. Thus, we will first give the (*can*)*IPA* symbols – roman and in brackets, a byword for a scientific method, in contrast with those who go as far as to put graphemes between slashes, as if they were phonemes, in a false attempt to be scientific!

### The phonetic alphabet of the *Atlante Linguistico Italiano* (⟨Italian Linguistic Atlas⟩): Another example not to follow!

7.34. With the publication of the second volume of the *Atlante Linguistico Italiano* (1996), the list of the symbols used is provided, at last. In the first volume (1995) nothing of the kind was given, although a certain number of symbols had changed in comparison with bulletins previously issued. Such a list is very concise: a 38 × 50 cm wall sheet (plus margins) with medium-to-small-sized typefaces. But most disappointingly, they are not explained; they are just listed in a kind of alphabetical order. Sometimes we find indications corresponding to *Tuscan*, *Italian*, *Spanish*...; at other times some explanations are attempted, but often they are confused and very approximate, so that they give rise to more doubts than answers (to trained phoneticians as well).

In short, it is a ⟨phonetic⟩ alphabet which does not consider phonetic types, but rather graphic types to be artificially distinguished by unlawfully using disorganic and scrappy diacritics and graphemes, which have not been expressly devised. Again, also vowels are severely ⟨writing addicted⟩, which is the major drawback of these phonetic pseudo-alphabets and shows the absurdity and incongruity of representations (and equalizations) such as (where slashes separate unstressed from stressed ones):  $\underline{o}/\acute{o}$ ,  $\acute{o}/\acute{o}$ ,  $\acute{o}/\acute{o}$ ,  $\acute{o}/\grave{o}$ ,  $\underline{o}/\grave{o}$ !

But is this algebra or phonetics? It would have been more logical to have  $\underline{o}/\acute{o}$ ,  $\acute{o}/\acute{o}$ ,  $\acute{o}/\acute{o}$ ,  $\underline{o}/\acute{o}$ ; or, better still, also simplifying both composition and the sign inventory:  $\underline{o}/\acute{o}$ ,  $\acute{o}/\acute{o}$ ,  $\acute{o}/\acute{o}$ ,  $\underline{o}/\acute{o}$ ,  $\underline{o}/\acute{o}$ . So why do we not remove all those troublesome di-

acritics (which certainly do not facilitate either reading or composition)? These five blocks ought to be distinguished according to closing/opening degrees. On the other hand, how open can *a*-sounds be? According to certain false interpretations, they could indeed be well over the actual vowel space in the vocogram!

7.35. Unfortunately, these possibilities are not generally applied according to phonetic criteria (relating to the articulatory space in the vocogram), but rather by progressively drifting away from what subjectively is thought to be more common, more normal, more familiar. When some difference is perceived, a diacritic is searched with the aim of indicating it, while remaining linked to graphemes, on affinity grounds, or even because dominated by etymology! So it could happen to find u when there is a <wish> for a given *u* to be very open, but o when the <wish> is to have a very closed *o* sound; but in all likelihood there may be just one phone (or the two are very similar) to be represented with the same symbol. As a matter of fact, this phonetic alphabet <would provide for> even 85 vowel *phones* (against the 52 of *canIPA*, that some think are too many!). But that is not enough: in fact, the *symbols* are  $85 \times 2 = 170$  (!), counting the awkward and troublesome accents *over* the vowels too. Of these 170 symbols, only 10 are free from diacritics, whereas 14 other <symbols> have three diacritics (3!); all the other have one or two! Is this not <diacritico-crazy>...?

Seven vowels, which were probably considered to be primary, are not explained at all: *i, e, ä, à, a, o, u*. According to phonetics' logic and articulatory possibilities, they have the indicative value of [i, ɛ, æ, a, ɑ, ɔ, u]. Seven further vowels, *y, ə, ë, ü, ö, ù, ó*, are absurdly and uselessly <explained>. Their values ought to be: [i, ə, ɤ, y, ø, ʊ, ɔ]. Furthermore, we find three <velarized> vowels, *ɛ, ɑ, ω*, which could correspond to [ɛ̠, ɤ̠, ʌ̠]. Each one of these 17 vowels, as we have seen, can be modified by diacritics five times, plus five more, due to the possible addition of accents!

7.36. As far as the consonants of the ALI are concerned, the situation is even worse. There is a limited number of graphemes, mostly from the Latin alphabet, with some stylistic variations, and a few Greek ones; they are often exemplified, whereas in other cases the readers are lost, faced with fictitious definitions, which are more confusing than indicative. Besides, not rarely there are symbols or, more often, combinations of symbols, sometimes as superscript characters, or with various diacritics which are not specific but <recycled>, for about 90 phonetic values.

However, a number of these combinations also indicate (true or presumed) fluctuations between other articulations, which are then generally wild and indecipherable.

Finally, let us draw a veil over all this by exemplifying an emblematic case: [s, ʃ] are represented by <*s, ś* (Italian *sale, scena*)>; then several combinations with diacritics are presented, and *ś, ś́* are among these. The funny thing is that one is <explained> through the other which, obviously, is as cryptically <explained> by referring to the previous one! In fact, we are told that *ś* is <between *s* and *ś́*> and that *ś́* is <between *ś* and *ś̂*>; it is likely that they are [ʃ, ʃ̂] respectively. But why not say that in a clear and firm way? On the other hand, several further cases are even more

ambiguous. After some more diacritics, we also find some sounds used to spur or call animals. We have isolated the clicks (or dejectives): <>p'<, >z'<, >tl'<, >k'< = [p, tʰ, tʰ, t̰].

Furthermore, in the volumes containing the survey proceedings there are dozens and dozens (and dozens) of further symbol combinations (even reduced and superimposed) and further diacritics, which are generally not explained at all!

7.37. By now, it should be a known fact that the only clear and valid way to make the values of sounds understood is to show their articulations, by means of appropriate *figures* (orograms, rigorously drawn, but without useless frills), connected with *symbols* (not graphemes made up with some disturbing diacritics). Whenever it is possible, it is useful to add some references to well-known languages, but with no fear to introduce less-known ones too. As a matter of fact, when a correct *example* has been given, comparisons and verifications are always possible. Instead, with no example, there is little left to do...

Without all this everything is vague and unclear. This situation is congenial only to those who content themselves with superficiality.

### Observations on the (non) <respect> of symbols

7.38. Too many printers, editors and publishers (even important ones) seem happy with symbolic approximation, either because they do not know, or cannot appreciate, what rigor and internal harmony there is in the symbol inventory. Also authors are often not sufficiently informed <sup>or</sup> refined; or else they are subjected to typesetting limitations. Even without moving away from *offIPA*, and even in Great Britain where the *IPA* is more used than ever, we too often find cases such as those which follow.

The most serious, and too frequent, is the confusion and exchange of symbols with completely different values, even vocoids vs contoids, as (the problem is within pairs – the first symbol is the correct one): [ɣ, ɣ], [θ, ø], [ə, ə], [u, v], [t̰, t̰], [x, χ], [ɲ, ɲ], [ŋ, ɳ].

7.39. Then we find undue substitutions with <normal> letters (or <special> ones for computers): [ʃ, ʃ], [ʃ, ʃ], [ʒ, ʒ], [ʒ, ʒ], [g, g], [ɪ, ɪ], [ɪ, ɪ], [ɲ, ñ], [β, β], [R, R], [I, I], [U, U], [Y, Y], [G, G], [X, X], [ʔ, ʔ], [z, :], [', ' ] (or [', ' ] and ['] rendered as [', ]). And it is a hard task indeed to try to make typesetters notice the (obvious) difference, especially when lower-case signs are concerned! Try it and see... Some even put a space after [:] and ['] (which they use for [:] and [']); others on the contrary (especially in the English-speaking countries) do not take the trouble to put the legitimate space after commas separating symbols, so they are able to produce strings like </I,ε,æ,Λ,α,ɒ,ɔ,υ,ʒ,ə/> (for the most readable and legitimate sequence /I, ε, æ, Λ, α, ɒ, ɔ, υ, ʒ, ə/) even for *all* the phonemes of a given language (30 or 40 elements, and even more!).

We also find the absurdity of ligatures used with phonetic symbols: [fi, fi], [fl,

fl], [ff, ff], [ffi, ffi], [ffl, ffl], and the opposite absurdity is found too (ie ‹false ligatures› for phonetic ligatures or *monographs*): [ts, ts], [dz, dz], [tʃ, tʃ], [dʒ, dʒ] (and even [tʃ, tʃ], [dʒ]).

7.40. Then come substitutions with Greek letters: [λ, λ], [ϕ, ϕ], [ϕ, ϕ], [β, β], [γ, γ], [θ, θ], [ð, ð], [η, η], [υ, υ], [ρ, ρ], [α, α], [ι, ι], or Cyrillic ones: [ϕ, ϕ], [к, к], [р, р], [у, у], [ε, ε], [з, з] (there is an actual difference even between the last two signs). In addition, we find that the ‹phonic zero› – /θ/, [θ]– can be represented with the symbol of the vocoid [ø], instead –at least– of ‹diameter›, ‹ø›, which at times is used for /ø/, [ø] instead.

Lastly, we also find symbols not drawn by phoneticians, but by some inaccurate persons (of no scruples or principles), which are purchased by linguists and phoneticians too! It is sad to see that even the *Journal of the International Phonetic Association* uses them (although years ago it used to use some absolutely despicable ones!): [ʃ, ʃ], [ʒ, ʒ], [ʝ, ʝ], [ʧ, ʧ], [ʨ, ʨ], [ɹ, ɹ], [ɻ, ɻ]. A rather weird idea was the substitution of [ɻ] with [ɻ], to –pointlessly– try to avoid it being confused with [ɻ] (which, as is apparent in the official version, ie [ɻ], dangerously has too small a loop). In fact, again, even in the *Journal of the International Phonetic Association* [ɻ] has been used in place of [ɻ] (2003, 33/2, p. 262)!

7.41. Not to mention then the undue and undesired substitutions that, too frequently, are to be found even in serious texts... The use of mixed symbols is particularly insulting: ‹/bɛl/ or ‹/bɛl/ (obviously for /bɛl/); or ‹[bɛl]; or else ‹/bɛl/, ‹/bɛl/. Besides, today, it is a mark of great and guilty slovenliness to publish transcriptions such as those just indicated. There are computer programs (although it is true that not all of them are really good), which enable phoneticians to produce all the symbols they need, by really making them as they should be done (so to say... ‹as Phone commands›).

7.42. Since the *offIPA* has told the world about its (sham) reform, the authors of linguistics books feel obliged to insert an appendix with the chart of the *IPA*. However, this ‹fashion› is (almost) always *old*, since the version of the inserted chart is (almost) never the latest one, even for books appearing many years after the latest revision. This does not happen only in the ‹colonies›, but also in Great Britain and North America, where novelties arrive first, since they are generally produced there. There are new books that still appear with the chart revised in 1993, instead of 1996 (or partially so, in 1989), or even in 1979, or in 1951 too!

Above all, many people are not even able to make the necessary corrections of misprinted symbols, on the contrary they often add some new (even serious and embarrassing) ones. For instance, in 2002 in Italy a book bearing the title of *Linguistica elementare* (‹Elementary Linguistics›) appeared; it is a second edition (although it is defined as the *ninth* one... – the first one was dated 1998!) and it reproduces the chart of 1989! Among the mistakes it contains, and excluding here foreign languages, we cannot help pointing out the highly misleading ones referring to the Italian language and some dialects: according to this book, Italian has only [r] (whereas most

often it has [r]), and palatal stops \*[c, ɟ] before front vowels (whereas they are normal prevelar ones, [k, g], [[k, g]]); besides ⟨[tʃ, dʒ; ʃ]⟩ are variously defined as ⟨palatoalveolar⟩, ⟨prepalatal⟩, or ⟨palatal⟩ (ie [tʃ, dʒ; ʃ], which are postalveopalatal protruded). But, the most surprising fanta-phonetic inventions regard dialects: in Rome, according to this source, they have a uvular \*[ŋ] (for [ŋ] of the example given), in Naples, again, uvular \*[q, ɢ] (for normal [k, g]). And, again according to this source, in Sicily they have a retroflex sequence \*[ʈʈ] (for the alveolar slit stopstricative, [tʂ]), but someone else has had a finger in this pie for more than a century. Thus we can balance this by adding a further ⟨authentic⟩ invention: ⟨[ɭ]⟩ (ie [ɭ]) would be the impossible ⟨flapped lateral *click*⟩... It goes without saying that such errors are very misleading. And the author of that book had been... Minister of Education (although for a very short while); but for many people Phonetics is not ⟨education⟩.

7.43. Our conclusion is quite obvious: ¿why should people want to deal with what they do not know? Regrettably, this way of thinking is still widely prevailing in the academia, in particular for linguistic and glottological studies. Fantastic stories are told about the fact that one should deal with all linguistic aspects, just to demonstrate how to ⟨fully master⟩ the whole subject. What *is* demonstrated, instead, is only (blind and uncritical) superficiality and presumption, which still undermine true qualification and competency. Inevitably, qualification and competency must be specialistic (as far as books to be written), but not limited (as far as books to be read).

### Hypostatization & ⟨IPASTATIZATION⟩

7.44. Writing –we will never tire of repeating it– is nothing but a (very deficient and defective [even hysterical]) means of representing the absolute reality of the signifier of a given language or dialect (obviously in order to convey the signified).

It is necessary to consider writing simply in this way, although it is true that it is often based on a phonemic criterion, sometimes even without the inventor's full awareness. This mostly happens to new orthographies, if they are prepared calmly and after long reflection, by operating ⟨from inside the language⟩, through a symbiotic relationship produced by a deep interest in the language and the need/necessity to represent it.

Instead, when people try to adapt the orthography of another language (even if it is a cognate language they known well), real problems arise owing to the interference from the native tongue, which inevitably prevails and leads to bad ⟨choices⟩. In addition, if people try to do this with no phonological or phonetic bases, although with the best intentions, they are likely to fail.

However, also those who approach the different orthographies as if they were something absolute, almost divine, are likely to do worse things. Let us give some practical examples: to consider *j* as if it actually were /j/ [j] clearly means to hypostatize (or ⟨IPASTATIZE⟩) the few and poor orthographic signs available to ordinary mortals. The same holds for *n* = /n/ [n], whereas it is natural that, before conso-

nants, it usually assimilates by place of articulation. Thus, although orthographies may give *aj*, *nk*, there is no good reason to consider those written sequences as corresponding to [aj, nk]; it is more likely that they stand for [ai, ŋk], even if in phonemic transcriptions we can actually find /aj, nk/.

7.45. Another connected problem, but even more serious, regards the stopstricative (◁affricate▷) articulation as too often wrongly described in so many books (even good ones). The use of more appropriate symbols, such as /ts, dz; tʃ, dʒ/, would make people realize that we are not at all dealing with /t+s, d+z; t+ʃ, d+ʒ/, as the most widely used *IPA* way of transcribing –ie /ts, dz; tʃ, dʒ/– would allow one to think at first. Nevertheless, even in influential books, we too often happen to read that such ◁affricates are formed by apical [t, d] followed by [s, z; ʃ, ʒ]▷. Three mistakes are quite evident here: the articulations are not presented (as they actually are) as homorganic, unitary (although not simple), and lasting as any other consonant (not as two).