Contents

Ancient Greek Pronunciation
& 'Modern' Accents

Applications of the Natural Phonetics & Tonetics Method

With counseling by Fernando Maggi

0.
Preliminary observation on Ancient Greek pronunciation

0.1. *Ancient* or *'neutral' Classical Greek* (5-4th c. BC, used by Plato & Aristotle), had five vowels, both short and long (actually monotimbric diphthongs), with different qualities, as well as the thirteen phonemic diphthongs given in the second vocogram.

Their nature and quality result from comparisons between the different (often conflicting) opinions of present-day and past scholars, as also from loanwords in Greek (and from Greek), including those from central- and eastern-Asian languages.

The Greek alphabet

0.2. Here, a transliteration is added to simplify things, especially for beginners. Some numbered notes follow, with explanations and some useful examples, although rather concisely.

α	*a*	[ɐ] /ɐ/	ν	*n*	[n] /n/
	a/*ā*	[a(a)][1] /aa/	ξ	*ks*	[ks] /k/+/s/
ε	*e*	[e] /e/	π	*p*	[p] /p/
η	*ē*	[ɛ(ɛ)][1] /ɛɛ/	ρ	*r*	[ɾ] /ɾ/
ι	*i*	[ɪ] /ɪ/	ῥ	*rh*	[ɾ] /ɾ/
	i/*ī*	[i(i)][1] /ii/	ῥῥ	*rrh*	[ɾɾ] /ɾɾ/
ο	*o*	[o] /o/	σ,-ς	*s*	[s] /s/ (word-finally, ς)
ω	*ō*	[ɔ(ɔ)][1] /ɔɔ/		*s*	[z] /s/ + β, δ, γ;
υ	*y*	[ʉ] /ʉ/ (←[ʊ])[2]		*s*	[z] /s/ + μ, ν, ρ, λ
	y/*ȳ*	[ʉ(ʉ)] /ʉʉ/ (←[uu])[2]	τ	*t*	[t] /t/
β	*b*	[b] /b/	φ	*ph*	[ph] /p/+/h/
γ	*g*	[g] /g/; *g* [ŋ] /n/ + μ, ν	χ	*kh*	[kh] /k/+/h/
		(but γν-, *gn*- [gn] /gn/);	ψ	*ps*	[ps] /p/+/s/
	n	[ŋ] /n/ + γ, ϰ, ξ, χ;			
δ	*d*	[d] /d/	ʿ	*h*	[h, V#ɦV] /h/
ζ	*z*	[dz, VdzV] /dz/ (←[zd, zð])[2]	ʾ		[ø] / / 'zero'
ϑ	*th*	[th] /t/ + /h/	ˈ	´	[ˈ] /ˈ/ (mid level tone)
ϰ	*k*	[k] /k/	ˋ	`	[_] /_/ (low level tone)
λ	*l*	[l] /l/	ˆ	^	[˩˥] /˩˥/ (mid-to-low falling tone)
μ	*m*	[m] /m/			[.] /./ (low level weak tone)

V ι *V i* [V ɪ] /V ɪ/: αι, *ai* [ɐɪ] /ai/; ει, *ei* [eɪ] /ei/; οι, *oi* [oɪ] /oi/; υι, *yi* [ʉɪ] /ʉi/

V υ *V u* [V ʊ] /V ʊ/: αυ, *au* [ɐʊ] /au/; ευ, *eu* [eʊ] /eu/; ᾱυ, *āu* [aaʊ] /aau/; ηυ, *ēu* [ɛɛʊ] /ɛɛu/; ωυ, *ōu* [ɔɔʊ] /ɔɔu/; but ου, *ou* [ʊu] /uu/, which is the natural phonic way of showing what different scholars described as if corresponding to '/oo, oʊ, ou, uu/' by optimizing their vocogram articulatory space[2]

V ̣ *V i̯* [VV ɪ][3]: for our kind of pronunciation, we show these long diphthongs as they really were: ῃ-ηι, *ēi̯* [ɛ(ɛ)ɪ] /ɛɛi/; ᾳ-αι, *āi̯* [a(a)ɪ] /aai/; ῳ-ωι, *ōi̯* [ɔ(ɔ)ɪ] /ɔɔi/

V ι V *V i* V [V ɪj V] /V ɪ(#)V/, V υ V *V u* V [V ʊw V] /V ʊ(#)V/ (within or between words).

[1] Unstressed 'long' vowels become short monophthongs, keeping their normal timbres, [i, ɛ, a, ɔ, ʉ], which were different from true short vowels, [ɪ, e, ɐ, o, ʊ].

[2] At earlier times these vowel timbres and the articulation of ζ were as indicated after '←', [dz] /dz/ (not a stopstrictive, [ʣ]), from a former [zd, zð] /zd/, originated by metathesis. In spite of its being 'intrinsically' voiced (structurally, a voiceless sequence, /ts/, would have been more plausible, much like ψ and ξ, but no reliable traces or records of it have been found).

[3] On the other hand we get: ᾍι (for ᾀ̂-ᾳ̂ι; different from Aῖ, αῖ, but worse than a more desirable ᾍ, together with ᾘ̣, ᾨ̣, &c)… In fact, ῃ-ηι, ᾳ-αι, ῳ-ωι, were still 'long' diphthongs, as shown: [a(a)ɪ, ɛ(ɛ)ɪ, ɔ(ɔ)ɪ]; but, if followed by a vowel, ⟨ ̣⟩ stood for ⟨ι⟩ [ˌj, ˈj], as in: ῥᾴων *hrái̯ōn* [ˈr̥aaˌjɔn], κλῄω *klēi̯ō* [ˈklɛɛˌjɔ], πατρῴος *patrōi̯os* [ˌpɐˌtrɔɔˌjos], τῷ ὄντι *tōi̯ ónti* [ˌtɔˈjoɲˌtɪ]. For [ʝ, ɟ, ɯ], see § 3.9-10. Also see § 3.15 for /aai, ɛɛi, ɔɔi/ and their succeeding developments.

0.3. Arguably (and with reference to what is said under note [3], too), a language alphabet is one thing, but its phonology (& phonotonetics) is another quite different thing. So, it would be clearly absurd to insert, among the true phonemes, something like 'unitary phonemes /ps, ks, dz/'.

The same is true of θ, φ, χ, which are defined as voiceless 'aspirated' stops, and wrongly considered as being unitary phonemes because of their different spelling.

When in sequence, both can be 'aspirated', mostly in (excessively) careful speech (even pedantic, indeed): δίφθογγος *díphthongos* [ˈdɪphˌthoŋˌgos, ˈdɪpʰ-] (colloquially, also [φ, θ, x] were possible, and better: [ˈdɪɸˌthoŋˌgos]), with 'normal' (intermediate) [ˈdɪpˌthoŋˌgos], and so on.

Thus, in our consonant table, we certainly prefer not to place either /dz, ps, ks/, or /ph, th, kh/ (or /p(h)/ &c), any more. In fact, all these clusters are simple consonant sequences, not any 'divine revelation'. They are not different from, for instance, /pr, pl, pn, kt, st/ &c.

Notice also that, except for γγ *ng* [ŋg], doubled consonants are truly geminated: βάλλω *bállō* [ˈbɐlˌlɔ], ἵππος *híppos* [ˈhɪpˌpos] (or περίζωμα *perízōma* [ˌpeˈrɪzˌzɔˌmɐ], in colloquial pronunciation, instead of neutral [ˌpeˈrɪdˌzɔˌmɐ]).

0.4. Besides, we had V*ï*, *Vï* [Vɪ] and V*ü*, *Vü* [Vʉ] with independent ɪ, ʊ (also stressable, ἀΐσσω *aíssō* [ˌaˈɪsˌsɔ]): ἱρῆϊον *hirēïon* [ˌhɪˈrɛɛɪˌjon], ἀϋτμή *aytmē* [ˌaʉtˈmɛɛ].

In addition, intervocalic /i, u/, *ie* V*i*V *ViV* (in /Vi, Vu/ + /V/ sequences, as we will see in the vocograms of Ch 3) were: [VɪjV, VʊwV] *ie* [ʁɪjV, eɪjV, oɪjV, ʉɪjV]: πλεῖος *plêios* [ˌpleɪˌjos]. Also: VʊV, *VuV* [VʊwV]: [ʁʊwV, eʊwV, ɛɛʊwV, ɔɔʊwV] (with oυV, *ouV* [ʊuwV], too): βουλεύω *bouléuō* [ˌbʊˈleʊˌɯɔ].

In *diphthongs* the accent mark –much like the possible *breathing* (either 'rough', ⟨ʿ⟩ *h* [ʰhV, ʰɦV] /h/, or 'smooth', ⟨ʾ⟩ [Ø] / /)– is marked on the second element, even though it goes without saying that phono-tonetically (as also in its transliterated form) it is on the first one: αἷμα *hâima* [ˌɦɐɪˌmɐ].

As we know, unfortunately, usual spelling does not distinguish between short ([ɐ, ɪ, ʉ]) and long ([aa, ii, ʉʉ]): α, ι, υ.

0.5. Of course, in the appropriate chapters, everything will be explained and illustrated about vowels, consonants, stress, tonemes, intonation, with complete phonotonetic transcriptions.

0.6. Since we live and do phonetics in the third millennium, what will follow is thought to be necessary, in order to solve and resolve scientifically the problem of spelling and pronunciation.

Of course, some classicists, or classical philologists, 'classically' tied to century-old traditions (if not even thousand-year-old ones), might surely turn up their learned noses at our beliefs.

Too often, 'specialists' keep on trying to describe traditionally 'inhereted things', without resorting to newer and –allow us to say– more scientific methods, as Natural Phonotonetics. Unfortunately, 'traditions' are hard to die, or even be simply modified following more recent and scientific criteria.

But it must be completely clear that we refer to the (now) highly consolidated spelling usage, *after* the classical period, even if –obviously– related to that very epoch. Nobody sane of mind would assume that Plato or Aristotle actually already used such way of writing.

Of course, (ancient) tablets were a bit different from (graphic) tablets, but we must not confuse them. It is useless to remain bound to clearly outdated past 'things'.

0.7. As we have already said, too often, even 'modern phoneticians' describe obviously unquestionale diphthongs as if the were 'long vowels'. Thus, it is not at all hard to imagine how phonetic realities could be treated in ancient times (and still believed to be like that, nowdays)!

Unfortunately, the Middle Ages are famous both for their serious studies and absurd rigmaroles, with incredible officialdom and many useless productions.

Sadly enough, in Greece nothing happened similar to what *Pāṇini* did, in ancient India, for rather (almost modern) scientific phonotonetics. The Greeks did know some kind of an ancient 'letter', derived by cutting H, which was quite suitable for an adequate representation of their phoneme /h/: Ⱶ, ɦ. In fact, ɦ had also been used to

represent drachma, as a silver coin. In Argolis, ꞏ (or its variant ꞏ) was used for λ, too.

In the late Hellenistic period and later on, when diacritics were systematically introduced in writing, this sign became the rough breathing, ⟨῾⟩, while the other part, ⸗, ⸗, became the smooth breathing, ⟨᾽⟩.

But it seems that some post-classical scholiasts and grammarians were not sufficiently smart as to follow the example found even in certain Greek colonies, where that 'letter' was conveniently used as a full-fledged consonantal grapheme. Instead, they 'preferred' not to indicate their phoneme, which –it is true– was rather marginal, almost a second-hand consonant. On the othe hand, communications was certainly not as easy as it is today: they did not have ἰντερνετ (nor ἳντερνετ).

When pre-vocalic /h/ eventually disappeared from Koiné Greek, and its spelling was fixed by people who no longer had it in their own spoken language, nor had a clear idea of what it actually could be, it was again considered as something less important than a real consonant, either phonically or graphically.

Even when /h/ was really present, it must have been considered as something belonging more to the realization of vowels in certain initial positions, rather than actually being a real consonantal segment.

0.8. As a matter of fact, in verse, neither ⟨῾⟩ /h/, nor the /h/ element of φ, ϑ, χ, were perceived as independent phonemic segments, while, on the contary, they certainly were: [h], [ph; th; kh, ƙh]! So, absurdly, initial /h/ was not considered to be a true consonant, but some kind of unfortunate feature belonging to the vowels, calling it *rough breathing*.

As in Italian, what is not clearly shown graphically, like the real (phonemic) timbres of the vowels written *e* and *o*, /e, ɛ; o, ɔ/, is currently undervalued, and even not perceived, not only by common people, but also by 'learned' people, as well, like too many university teachers.

0.9. Thus, instead of using a convenient and economical consonant (like ⸗, ꞏ, or any other, possibly better), a highly inconvenient diacritic was put over lower-case vowels: ⟨῾⟩ (for all seven vowels). Of course, it was also to be combined with the three kinds of accent, giving ⟨῞, ῝, ῾̂⟩ – again, for all vowels, including the three ones with *iota subscript*: ⟨῾ι⟩.

As already hinted at above, although φ, ϑ, χ were certainly [ph, th, kh], however, in verse, they were degraded to something like simple [p, t, k], and written with simple letters, instead of: πꞏ, τꞏ, κꞏ (more scientifically, indeed).

And what is more, as if not enough damage had already been done, they also 'invented' the extremely useless *smooth breathing*, meant to indicate the absence of the *rough* one (especially in texts as we have today).

But, in case, to indicate a phonic 'zero', [∅] (or simply [], certainly not [ʔ], which might have required a true consonantal phonic –and perhaps also graphic– segment), they should have used ⸗, ⸗, which they already had in previous times.

So the number of combinations of vowels and diacritics was doubled, quite unnecessarily. Of course, it is true that the adoption and insertion of the diacritics, over

(or under) letters, was somehow imposed by the unlucky *scriptio continua* (with no spaces between words) and in capital letters.

Obviously their introduction was certainly not a perfidious invention. And even the smooth breathing had a justification; in fact, it helped to identify words beginning with a vowel, as the rough breathing also did. But such 'clever expedients' were due to the technical limits of those times.

0.10. However, the unfortunate and unhappy story of the Greek spelling is not ended. In fact, although phonic diphthongs are quite clearly stressed on their first vowel element, like [ˈai] (*ie ái*), they are 'ingeneously' written like *aí*, as if they were actually [aˈi]!

In modern Greek, although now only the acute accent is written, the current spelling still uses such an inconvenient way of showing the stress. Let us consider a simple example, in modern Greek, where a word like [ˌkaθaˈɾɛ·vuʂa] is still amazingly written καθαρεύουσα (with an accent over what is now a consonant).

0.11. The medieval bureaucratic obsession also brought scholars to put a grave accent on any unaccented syllable, thus, producing full sequences of such grave accents. Later on, however, the grave accent was only put on the final syllable in given known cases.

Of course, in accurate phonotonetic transcriptions, any unstressed syllable must be indicated by means of a low dot, because they are uttered on a low pitch. This tonetic structure is somehow similar to that of Japanese, where (in addition to protune and tune modifications, as in Greek, too) two essential pitches are used: *low* and 'non-low', which is *mid*, not 'high' as it is still called and described.

So, a tone mark like [ˉ] is certainly excessively too high, while [ˈ] (*ie* ⟦-⟧, not to be confused with [-], *ie* a normal hyphen) is the one to be used.

When the Greek acute accent is described as the movement from a low pitch to a 'high' one, it has to be interpreted as a movement from low to *mid*, but not on the same syllable, even if long, so certainly neither [/] nor [ˏ].

Instead, it means that from a low-pitched unstressed syllable [.] the voice rises to the mid-pitched stressed syllable [ˈ] (*ie* ⟦-⟧, again) for the acute accent, [.ˈ] (*ie* ⟦.-⟧). On the other hand, for the circumflex accent the movement is from the mid pitch falling to the low one, within the same syllable, [˪]. The change from [.] to [ˈ], is too often interpreted (and described) as an actual tonetic movement to which the real [˪] tone is added, giving something misleading like [˄], or even worse [^]!

Arguably, it would be extremely ridiculous to pass to a true high pitch even in Japanese, which has very similar tone patterns, as already said. So, even in Greek, the real pattern must be within the unmarked low pitch band to the marked mid one (as shown in our tonograms), either steady, [ˈ] (*ie* ⟦-⟧), or falling [˪] (*cf fig* 5.1).

0.12. As a matter of fact, those 'experts' who made Greek recordings using high pitches, believing to be actually reproducing what it was, in reality, made fools of themselves.

It is sufficient to quickly listen to some of the cartoon-like recordings made by

Stephen G. Daitz, who passed for a renowned celebrated model to be followed.

In Greek, as in Japanese, the high pitch band is exclusively used for *intonation*, which is superimposed to pitch accents, for the interrogative and suspensive tunes, or for some paraphonic reasons.

Arguably, as Greek verse was generally accompanied by *music*, certainly with wider tonal movements than in real spoken language (otherwise it would be almost useless), we may consider 'normal' to deform and distort utterances in order to follow the musical pattern.

It is the same even in modern contemporary songs, with (even considerable) segmental lengthenings, to say nothing about opera, where some phonemes may be completely ignored, as the distinction between Italian /e, ɛ/ and /o, ɔ/.

But, to insist in believing that real ancient Greek had to be practically 'sung' is something which nobody can actually trust.

0.13. Now, a short note about the way of representing *numerals* in ancient Greece is thought to be necessary. Philosophy, astronomy, and all possible arts (except cinema and music recording, of course) were certainly treated deeply, even mathematics and geometry.

Thus we find numbers like: α′, β′, γ′, δ′, ε′, ϛ′, ζ′, η′, ϑ′, ι′ (*ie* 1-10), ια′, ιβ′, ιγ′, ιδ′, ιε′, ιϛ′, ιζ′, ιη′, ιϑ′ (*ie* 11-19), κ′, λ′, μ′, ν′, ξ′, ο′, π′, ϙ′ (*ie* tens from 20 to 90), ρ′, σ′, τ′, υ′, φ′, χ′, ψ′, ω′, ϡ′ (*ie* hundreds from 100 to 900), ͵α, ͵β, ͵γ (*ie* thousands from 1000 to 3000), ͵ι, ͵κ (*ie* tens of thousands from 10.000 to 20.000), ͵ρ (100.000). Let us see some examples: ιβ′ (*ie* 12), ϡξη′ (*ie* 968), ͵γχπγ′ (*ie* 3683).

Certainly, 'creations' like ʘ, ɿ (ɹ), ɪ (2), ɜ, φ (ɸ), ƽ (ƽ), ɓ, ɔ (ɔ), ȣ (ȣ), ɋ (*ie* 0, 1, 2, 3, 4, 5, 6, 7, 8, 9) would be much better, and with 'normal' combinations of these simple *ten* elements, without ignoring the fundamental *zero*, in fact, only nothing is flawless, instead of introducing cerebral pseudo-numerical values, detrimentally based on less motivated *letters*.

Before Archimedes, scientific precision seemed to be less important than philosophy or the fine arts. In fact, πολύπους (*poly*pus /ˈpɒləpəs/, 'many' & πούς 'foot') is certainly not as precise as ὀκτώπους (*octo*pus /ˈɒkʈəpəs/, 'eight').

So, let us state frankly that the way in which numbers were written is decidedly far from ideal. It is also undeniably true that, in the Roman world, numbers were shown in a possible even worse way, as we all know rather well. For instance, XL, or XL, means '40', certainly not 'extra-large'!

0.14. The *Greek literary dialects* had always been a kind of artificial languages. In fact, the 'dialects' used by all authors did not depend on their ethnic origin, but on the literary genres they chose.

Therefore, the *Attic dialect* was used for *prose*, *philosophy*, *oratory*, *historiography*, and *theatrical dialog*. The *Ionic dialect* in *elegy, epigram,* and (together with the *Aeolic dialect*) in *monodic lyric*. The *Doric dialect* in *choral lyric* and lyrical parts of *tragedy* and *comedy*. Here are some of the most peculiar phonic differences between these literary dialects.

While *Attic* changed former /uu, u/ into /ʉʉ, ʉ/ (where /uu, u/ derived both from /ou/ and contracted or compensatory lengthened /oo/, but were still different from '/oː/ [ɔɔ]'), other dialects kept /uu, u/. In addition, Attic maintained /h/, while, for former /VssV/ it had three possibilities: /VssV, VsV, VttV/.

Generally, *Ionic* changed /uu, u/ into /ʉʉ, ʉ/, /o/ into /ou/, but /ei/ into /e/ (although apparently irregular); it often lost /h/, while, for former /VssV/ it had two possibilities: /VssV, VttV/, and geminated /m, n, l, p, t, s/ for metrical reasons.

Aeolic changed /ei/ into /eː/ [εε] (sometimes into /ii/); contracted /ee/ and /oo/ became /eː, oː/ [εε, ɔɔ], while original /εε/ was generally replaced by /aa/ and /ou/ by /uu/. It completely lost /h/, while keeping former word-internal [zd].

Doric changed original /ei, ou/ into /ee, oo/; it often had /aa/ instead of /εε/, and sometimes [ɟɐ, ɟo] instead of /ea, eo/ for metrical reasons. Besides, it kept [zd] and [ss].

Older graphic variants in Ancient Greek

0.15. Here is the typical Greek alphabet, with some possible older variants.

Α (Α, Α, Α, Α, Α, Λ, Ϫ) α (α, α, α, ɑ),
Β (Β, Β, Β, ß) β (β, β, β, ϐ),
Γ (Γ, Γ, Γ, Γ, Γ) γ (γ, γ, γ, ɣ, γ),
Δ (Δ, Δ, Δ) δ (δ, δ, ∂),
Ε (Ε, Ε, Ε, Ɛ, ϵ) ε (ε, ε, ϵ),
Ζ (Ζ, Ζ, Ʒ) ζ (ζ, ζ, ʒ),
Η (Η, Η, Η) η (η, η),
Θ (Θ, Θ) ϑ (ϑ, ϑ, θ, θ, θ),
Ι (Ι) ι (ι, ι, ı, ı),
Κ (Κ, Κ, Κ, Ϗ) ϰ (ϰ, ϰ, x, κ, κ),
Λ (Λ) λ (λ, λ, λ, λ, λ, λ),
Μ (Μ, Μ, Μ, Μ, Ϻ, Ϻ) μ (μ, μ),
Ν (Ν, Ν, Ν, Ν) ν (ν, ν, ν, ν),
Ξ (Ξ, Ξ, Ƶ, Ξ) ξ (ξ, ξ),
Ο (Ο, Ο) ο (ο, ο),
Π (Π, Π, Π, Π) π (π, π, π, π, π, ϖ),
Ρ (Ρ, Ρ, Ρ) ρ (ϱ, ϱ, ρ, ρ, ρ),
Σ (Σ, Σ, Ϲ, Ϲ) σ-ς (σ, σ, σ, ϭ, ϲ, -ς, -ς, -ς, -ς, -ϲ),
Τ (Τ, Τ) τ (τ, τ, τ, t),
Υ (Υ, ϒ, V) υ (υ, υ, υ, υ, υ),
Φ (Φ) φ (φ, φ, ϕ, ϕ, ϕ, ϕ),
Χ (Χ, Χ, Χ, Χ) χ (χ, χ, χ),
Ψ (Ψ) ψ (ψ, ψ, ψ),
Ω (Ω, Ω, Ω, Ω) ω (ω, ω, ω).

0.16. Certainly, the phonic consonants of ancient Greek (as those of any other language, dead or alive) must not be presented in alphabetical order. In fact, spelling is only an accidental poor device to try to represent a language. English (and even French) is quite a 'good' case of scientific absurd, which we have to cope with continually.

However, we have to recognize that ancient Greek spelling is not so bad, while the same heap of 'signs' is much less fit for modern Greek.

Clearly, languages evolve and change much, while keeping more or less unchanged their alphabets. This is not the best thing for the connection between their sounds and the way to 'represent' them in writing. Of course, for etymological reasons, it is better like that, although semantically things may certainly change even more than sounds.

For a (possibly good) connection between the pronunciation of a language and its writing 'system', there are even worse situations, as with Chinese and Japanese. In fact, those two languages do not represent their sounds, but (somehow) try to 'draw' the meaning of their words, or semantic concepts. It is true that, especially in Chinese, all their 'pretty drawings' are somehow different even when they have the same pronunciation, with the 'helpful' addition of different tonemes, to 'simplify' things for foreigners…

Further considerations and some proposals about Greek spelling

0.17. Unfortunately, the clever scholar (Aristophanes of Byzantium) who definitely elaborated the alphabet and spelling of classical Greek, as we use it today, did not consider important to provide further glyphs even for *long* ι, α, υ /iː, aː, ʉː/ [ii, aa, ʉʉ] (here, listed in phonic manner, not alphabetic).

It was around 200 bC, and probably he did not distinguish short and long ι, α, υ any longer, as he certainly did not pronounce 'iota subscript', that he hid under the small-case vowels (but not under the upper-case ones)!

Besides, for H, A, Ω, he put accents and breathings in front of them, instead of above, as for η, α, ω…

Of course, such glyphs would have been very useful, indeed, since all other things in the Greek alphabet are, substantially, 'phonemic'. Frankly, writing texts with a space between words, would have been much more useful, avoiding the, practically, useless 'smooth' breathing.

All the elaborate and intricate combinations with the tonemic marks, with the 'smooth' and 'rough' breathings complicate incredibly both reading and writing.

0.18. Back to the three ancipital letters, we are convinced that, thinking about a clear differentiation in writing should be more useful and important than all those 'unscientific' combinations of diacritics.

For instance, in addition to ι, I: /i/ [ɪ], α, A: /a/ [ɐ], υ, Y: /ʉ/ [ʊ], why not to use also ɪ, Ɪ: /iː/ [ii] (quite similar to the first part of η, or, in case, ɹ, ɾ), ɑ, Ⱥ: /aː/ [aa]

(or, in case, ꝏ, ꝏ), ʋ, Ɏ: /uː/ [ʉʉ] (or ʊ)?

Thus, instead of ⟨ʽ⟩ for /h/, the ancient (and sadly ignored) ͱ (also with its legitimate and useful capital variant, Ͱ) would decidedly be more advisable and convenient (and even more scientific and typographically more worthy, instead of degrading).

Passing to the toneme marks, again, there are the six 'inherited' combinations (or rather 'jumbles'): ⟨῎ ῍ ῞ ῝ ῏ ῟⟩, in addition to the simple ones: ⟨᾿ ῾ ΄ ` ͂⟩ (or ⟨˜ ˜⟩, for the last one, although less pleasing). Thus, we should be happy with: ά, ᾶ, (and ὰ), or ͱά, ͱᾶ, rather than ἄ, ἆ (ἀ), or ἅ, ἇ; in addition to Ά, Α͂, Ͱά, Ͱᾶ (rather than Ἄ, Ἆ, Ἅ, Ἇ) &c.

The 'damned' *iota subscript*, in 'true' classical ancient Greek *was* still pronounced, producing real diphthongs, so a simpler and more functional way of writing it would be to use the usual letter for *iota*, after the vowel: ηι, αι, ωι (rather than ῃ, ᾳ, ῳ), as Ηι, Αι, Ωι).

0.19. Let us, now, think about the incredibly peculiar way of writing the accents (and breathings!) over the two vowels of a diphthong, 'officially'. For instance: εί, εὶ, εῖ (to say nothing of εἰ, εἴ, εἶ, εἷ, εἱ, εἵ, εἳ, εἷ, certainly unbearable even to 'Mighty Jove'!). Arguably, ει, έι, ὲι, ε͂ι, ͱει, ͱέι, ͱὲι, ͱε͂ι would be much better, although none of us is accustomed to, yet, because 'slave' of traditions…

Besides, why should sensible people think of writing phonic realities like /ˈei/ [ˈeɪ], as if it were /eˈi/ [eˈɪ]?! And so on… Thus, words like βοΐ, Λαΐς /boˈi, laˈis/ [ˌboˈɪ, ˌlɐˈɪs] would 'legitimately' be written βοί, Λαίς (as all 'gods' would command).

Often, further vocalic clusters, which phonically are obvious diphthongs, for 'damned' grammatical and lexical 'reasons' are presented in an astonishing circus-like way.

A few words, now, about Greek punctuation. It is a well-known fact that instead of Latin ⟨?⟩ we find ⟨;⟩. On the contrary, instead of Latin ⟨;⟩ we find ⟨·⟩. No difference is found for ⟨,⟩ and ⟨.⟩. While modern Greek adopts ⟨!⟩, ancient Greek did not use it. Anyway, we will certainly use it, thogether with capital letters at the beginning of new sentences, althogh ancient Greek rarely did so.

However, a few 'good words' can be said about the puzzling choice of ⟨.⟩, ⟨·⟩, ⟨,⟩, ⟨;⟩. In fact, ⟨.⟩ indicates an intonation fall, reaching a low tone, [˙], while ⟨·⟩ indicates an intonation rise, [˙].

In addition, ⟨,⟩ indicates an unmarked middle tone, [·], while the interrogative ⟨;⟩ indicates a rising-falling movement (to a middle tone), althoug represented by means of 'extreme' levels, [⁚]. At first sight, [⁛] would seem to be more appropriate, but our notation for intonation simply wants to hint at general movements, since the tonograms show what actually occurs better).

0.20. Thus, we will deal with the sounds of ancient Greek according to the principles of Natural Phonetics, presenting its phonemes (and phones), including stress, tonemes, and intonation. All this will be accompanied by the 'official' spelling, which has at least the advantage of clearly showing the stress and tonemes of this language, in spite of its undeniable drawbacks.

0.21. *Acknowledgments.* Special thanks are sincerely due to Fernando Maggi for his constant and highly qualified assistance and counseling. Besides: Luca Bomboi, Marco Cerini, David Goldstein, and Marco Sartori.

2020/10/10

Luciano Canepari [luˈʧaˑno ˌkaneˈpaːɾi]
University of Venice (Italy)
Natural Phonotonetics
natural.phonetics@gmail.com

1.
A general approach to Natural Phonetics

1.0. In this introductory chapter, we will present the fundamental categories, with a simplified treatment limited to the most basic elements. These categories constitute the minimum necessary to proceed scientifically with phonetics.

In what will follow, every part will be gone into in greater depth and with added detail, helping the reader to arrive at a more complete knowledge of the subject.

Vowels

1.1. The back of the tongue is the fundamental element in vowel production. It moves in two different directions: HIGH–LOW and FORWARD–BACK. Consequently, the combination of these two elements produces a *quadrilateral*, which gives us the fundamental VOCOGRAM, used for showing –inside it– the positions of the vowels of a given language. On the left side of *fig* 1.1, there are three orograms indicating the zone of vocoid articulations; these orograms are steadily more schematic, moving downwards. The first, on top, is the most realistic, while the third, at the bottom, is a quadrilateral.

On the right-hand side of *fig* 1.1, the upper diagram is an orogram which shows the tongue: LOW and CENTRAL, as in the pronunciation of *a* [a] in most languages. The upper outlines of the positions of *i* [i], HIGH and FRONT, and *u* [u], HIGH and BACK, are also given – as they occur in most languages. The points are connected and contained in the white (or transparent) quadrilateral, which is given enlarged in the figure below (the *vocogram*, on the lower part of the right-hand side).

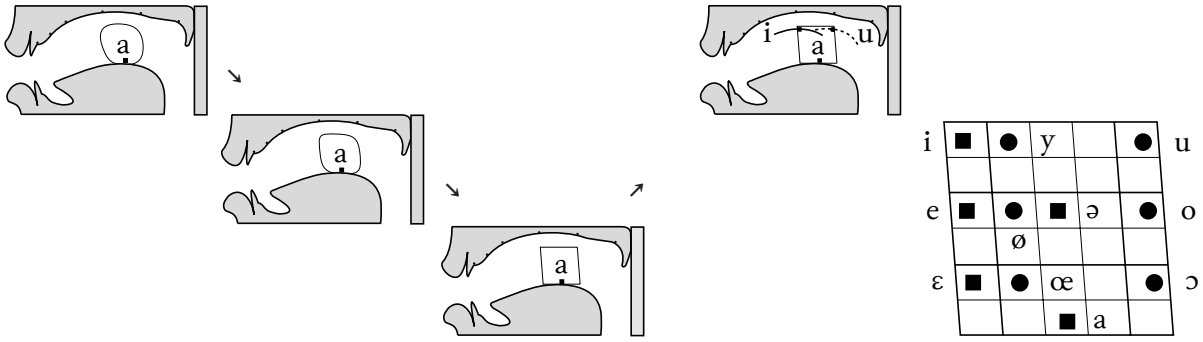
1.2. In the large quadrilateral, 11 vowels have been placed, shown by (square and round) MARKERS. The ROUND ones refer to vowels articulated with ROUNDED lips, while the SQUARE ones naturally represent vowels with unrounded –either SPREAD or neutral– lip position.

The symbols [i, a, u] correspond to Spanish *i*, *a*, *u*, as in *utilizar* [uˌtiliˈθaɾ] (or Italian *utilità* [uˌtiliˈta]), while [e, o] are the 'closed' vowels of Portuguese, as in *vê*, *povo* [ˈve, ˈpovu] (or Italian *tre*, *sono* [ˈtre, ˈsoːno]); [ɛ, ɔ] are the (stressed) 'open' vowels of Portuguese, as in *pé*, *pó* [ˈpɛ, ˈpɔ] (or Italian *sette*, *otto* [ˈsɛtːte, ˈɔtːto]). Note also German *Kamm*, *Tag* [ˈkham, ˈthaːk], *viel, Kuh* [ˈfiːl, ˈkhuː], and –but closer– *Weg*, *Boot*, *weg*, *Loch* [ˈveːk, ˈb̥oːt, ˈvɛk, ˈlɔχ]. The Italian words written *corressi* and

volto have two different meanings corresponding to two different pronunciations: (*se*) *corressi* '(if) I ran' [koɾˈresːsi], and (*io*) *corressi* '(I) corrected' [koɾˈrɛsːsi]; (*il*) *volto* '(the) face' [ˈvolːto], and (*io*) *volto* '(I) turn around' [ˈvɔlːto]. Consequently, the two GRAPHEMES ⟨*e*, *o*⟩ can each represent two different phonemes: /e, ɛ/ or /o, ɔ/.

The vowels of a number of languages are concisely shown in ℭ 10. Our bibliography contains the books we produced (or intend to produce) to accurately describe a number of languages.

fig 1.1. The articulatory extent of vowel sounds.



1.3. *fig* 1.1 (the vocogram part) contains three more vowels /y, ø, œ/, which are rounded, and for this reason have circular markers. These vowels are *almost* like /i, e, ɛ/ with lip rounding added. However, the tongue is a bit farther back than it is in /i, e, ɛ/, and in fact, these rounded vowels are a little centralized in the vocograms. /y, ø, œ/ occur in many languages, such as French: *lune*, *deux*, *seul* [ˈlyn, ˈdø, ˈsœl], or German: *Füße*, *Öl*, *zwölf* [ˈfyːsʁ, ˈʔøːl, ˈtsfœlf] (as well as in several Italian dialects, particularly Lombardian, Piedmontese, and Ligurian).

The first German example also has an instance of [ə], which is generically placed in the center, at the height of [e, ø, o] (*cf fig* 1.1). However, '[ə]' has many different realizations in the different languages, which are better rendered with more appropriate symbols.

The symbol /ˈ/, (an uncurved apostrophe) placed immediately before a syllable, indicates STRESS. The CHRONEME, /ː/, indicates distinctive lengthening of the preceding vowel – for example, in German there is a contrast between *Stadt* [ˈʃtat] 'city' and *Staat* [ˈʃtaːt] 'State'. When the same symbol occurs in PHONETIC TRANSCRIPTIONS (in brackets, [ ], instead of in PHONEMIC TRANSCRIPTIONS, which are written between slashes, / /), it is called a CHRONE, and indicates length which is not distinctive.

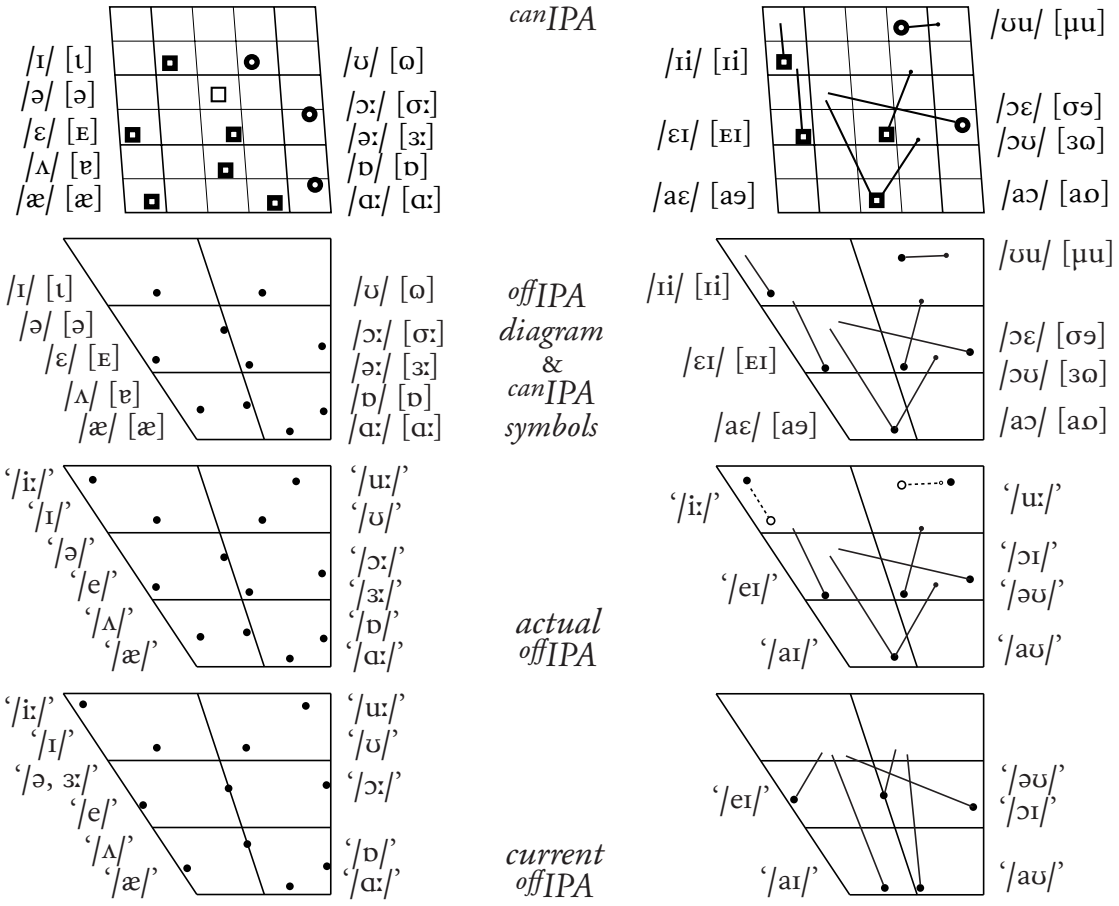
1.4. An example of non-distinctive lengthening is that occurring in Italian word-internal stressed unchecked syllables: *seme*, *solo* [ˈseːme, ˈsoːlo].

In conclusion, vowels consist of three fundamental elements: RAISING (of the tongue and jaw), ADVANCING (of the back of the tongue), and lip ROUNDING (or its absence).

As a first approach to the vowel phonemes of English, which are many more than in Spanish (5) or in Italian (7), we reproduce a simplified version of the vocograms of neutral British English, showing only its monophthongs (9 + *schwa*

/ə/) and diphthongs (7), with no combinatory variant, and excluding centering diphthongs, as well (here). This is done to enable the comparison with other similar figures currently found in phonetics or linguistics textbooks. We also present them both in our own vocograms and in the official quadrilaterals (but keeping our symbols) for a quicker comparison (followed by both an actual and current application of *offIPA* criteria and symbols, too).

fig 1.2 Four versions of simplified monophthongs and diphthongs of neutral British English.



Voicing

1.5. Voicing is the ‘voice’ given to vowels and certain consonants by the vibration of the vocal folds (which are located in the larynx).

Voicing can, therefore, be present or absent, giving rise to two main TYPES OF PHONATION: VOICED and VOICELESS consonants.

To give a few examples, the consonants present in *man*, *ring*, *dig*, *jazz*, *these*, *leasure* are voiced: [ˈmæˑn, ˈɻɹŋː, ˈɖɹˑg̊, ˈʤæˑz̥, ˈðɾˑiz̥] and [ˈlɛʒɐ, ˈlɪiʒɐ; ˈlɛɪʒɐ].

The Spanish or Italian /ɲ, ʎ/ are also voiced, and in neutral Italian pronunciation, they are always geminated between vowels, just like the consonants written doubled in the official orthography: *sogno*, *foglio*, *mamma, babbo*, *oggi* [ˈsoɲːɲo, ˈfɔʎːʎo, ˈmamːma, ˈbabːbo, ˈɔʤːʤi].

However, in other languages, /ɲ, ʎ/ are generally found without gemination, as in Spanish: *mañana*, *calle* [maˈɲaˑna, ˈkaˑʎe], or Portuguese *ninho*, *filho* [ˈniˑɲu, ˈfiˑʎu].

1.6. The other fundamental group of consonants is that of VOICELESS consonants, as seen in *pack*, *teach*, *south*, *fish* [ˈphæk, ˈʧhɪiʧ, ˈsaʊθ, ˈfɪʃ]. Of course, we have *fishy* [ˈfɪʃ-i], while in neutral Italian, /ʃ/ is geminated between vowels: *pesce* [ˈpeʃːʃe].

Gemination occurs even in foreign words adapted into Italian, such as the word *cachet* [kaʃˈʃɛ], which in French is [kaˈʃɛ]. It is interesting to note that Italians also pronounce the orthographic geminates of foreign languages as true phonic geminates, as in the English name *Billy* [ˈbilːli], instead of [ˈbɪl-i].

Consonant gemination is distinctive in Italian, as the following examples demonstrate: *cade*, *cadde* [ˈkaːde, ˈkadːde], *tufo*, *tuffo* [ˈtuːfo, ˈtufːfo], *nono*, *nonno* [ˈnɔːno, ˈnɔnːno], *caro*, *carro* [ˈkaːro, ˈkarːro]. In neutral Italian, there is also gemination in cases such as *è vero* [ɛvˈveːro], *ho sonno* [oˈsonːno], *a casa* [akˈkaːza], *blu mare* [ˌblumˈmaːre], *cosí forte* [ˌkosiˈfɔrːte], *tornerò domani* [ˌtornerˈɔd domˈmaːni], *città balneare* [ʧitˈtab balneˈaːre]. This kind of gemination is better defined as *co-gemination*.

Consonants

1.7. We will now see how the consonants are produced. As we have seen, the articulation of vowels is determined by the back of the tongue, with its up/down movements (complemented by closing and opening of the jaw), as well as its front/back movements, and also by the possibility of lip rounding. With consonants, instead, the space available is greater. In fact, it extends from the lips all the way to the larynx (*cf fig* 1.3).

In the table of *fig* 1.3, the names across the top are the main PLACES OF ARTICULATION, ranging from the lips to the larynx. The names to the left of the rows, instead, indicate the main MANNERS OF ARTICULATION. Intersections between the rows and columns can then produce various consonant sounds, and the number is often doubled due to the possibility of adding voicing (*ie* the voiced PHONATION TYPE).

All the British English consonant phonemes are given in the table, including the voiced elements forming diphonic pairs (given in parentheses). The consonants

fig 1.3. Simplified table of consonant sounds.

	bilabial	labiodental	dental	alveolar	postalveolar	postalveo-palatal protruded	palatal	velar	velar rounded	uvular	laryngeal
nasal	m			n			*ɲ*	ŋ			
stop	p (b)		*t* (*d*)		ʈ (ɖ)			k (g)			
stop-strictive						ʧ (ʤ)					
constrictive		f (v)	θ (ð)								
grooved con.			s (z)			ʃ (ʒ)					
approximant					ɻ		j		w		h
trill				*r*						ʀ	
lateral				l			*ʎ*				

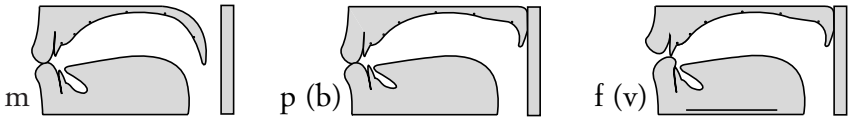
(symbols in brackets –or standing alone [except *h*]– are *voiced*)

[ɲ; t, (d); r, ʀ; ʎ] also appear; these are not phonemes of English (and are therefore given in italics), but are very important in certain other languages, or as taxophones in words like *cats* [ˈkʰhæts] and *heads* [ˈhɛːdz̥]. All of these articulations are given in *fig* 1.4-10 (and again, from another perspective, in *fig* 1.11-17).

Places of articulation

1.8. Here we consider the most important PLACES (or *points*) of articulation according to a structural and typological point of view (further on, we will see many more). The most external ones are BILABIAL ([m; p, b]), as in *my pub* [maɪˈpʰɐːb̥], and LABIODENTAL ([f, v]), as in *five* [ˈfaːəɣ̞]. These articulations are particularly easy to see (*fig* 1.4).

fig 1.4. Bilabial and labiodental articulations.



Immediately afterwards, we encounter the places: DENTAL ([t, d; θ, ð; s, z], *fig* 1.5), as in *the thing*, *seize* [ðəˈθɪŋː, ˈsɪːiz̥], and Spanish *data*, *zona* [ˈdaːta, ˈθσːna] (in American Spanish we have [ˈsσːna]); ALVEOLAR ([n; ɾ, ɖ; r; l], *fig* 1.6), as in *today* [ɾəˈɖɛːɪ], and Spanish or Italian *rana*, *luna*, Sp. [ˈrːaːna, ˈluːna], It. [ˈraːna, ˈluːna].

In English, /t, d/ are alveolar (as we have already seen), as is Castilian Spanish /s/. In phonemic (or phonological) transcriptions, simpler symbols may be used: *today* /təˈdeɪ/, *casas* /ˈkasas/. However, in truly useful phonetic transcriptions, more precise symbols are to be used, [ɾ, ɖ; ʂ] (although not official *IPA*).

fig 1.5. Dental articulations.

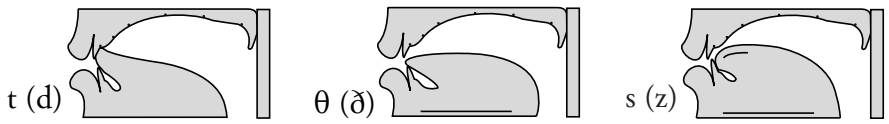
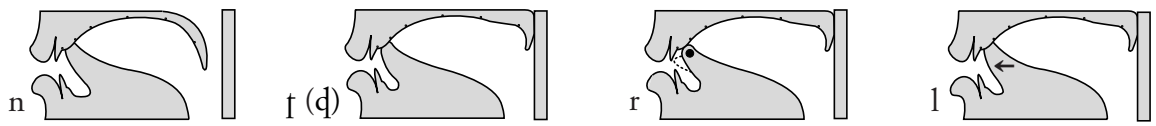


fig 1.6. Alveolar articulations.



1.9. We, now, have the POSTALVEOLAR place of articulation (*fig* 1.7), which is still farther back than the alveolar one. It occurs in British English *rain* [ˈɻɛːɪn]. It is quite clear that the British articulation is postalveolar (in spite of the misleading official term 'retroflex', which intends to mean the same thing, although saying it in a more complicated way).

However, in part because of a less clear official terminology, even British and American phoneticians often exchange the symbols, using [ɻ] for the neutral

American *r*, which is not postalveolar, but a slightly postalveolarized prevelar approximant, that we indicate exactly with the symbol [ɹ].

The following place of articulation, which officially (but very dangerously) is called 'postalveolar', naturally risks being confused with the preceding articulation (which is legitimately POSTALVEOLAR) – a common fate with those who entrust their fate to overly simplistic definitions.

1.10. In reality, we have here a compound articulation. It is not merely POSTALVEOLAR, but also has two simultaneous articulatory components (*ie coarticulations*): one which is PALATAL and another which is LABIAL.

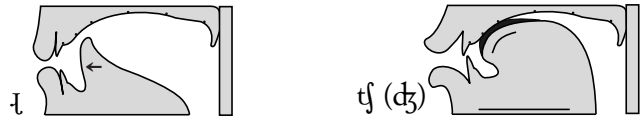
fig 1.7 (on the right) shows the articulation of the (respectively, voiced and voiceless) consonants *church*, *judge* ['ʧhɜ·ʧ, 'ʤɐ·ʤ]. As can be seen, there is a point of contact, in the postalveolar zone, indicated in black (for reasons that we will soon see when we move on to manners of articulation), and a point of proximity of the articulatory organs (at the palate), as well as (fairly visible) protrusion of the lips.

The descriptions of this articulation are usually among the worst (and this goes for the MANNER as well). In fact, perhaps thinking to make things easier by (excessive) simplification, the articulation is often described as 'palatal' (as an alternative to 'postalveolar', already seen). In reality, its proper definition is POSTALVEO-PALATAL PROTRUDED, precisely because each of its three components is fundamental.

1.11. For example, in Spanish, we encounter an articulation without lip protrusion, which is therefore simply POSTALVEO-PALATAL. It is useful to indicate this slightly different articulation with a symbol of its own (as we have already mentioned, and will again). The symbol used is a suitably modified version of the one used for the articulation with lip protrusion, so that the relationship between the articulations is preserved in the symbols, without, however, confusing them together. In phonemic transcriptions, the more general symbols are employed in all cases, thus, we have Spanish *chachachá* /ʧaʧaˈʧa/ [ˌʧaʧaˈʧa].

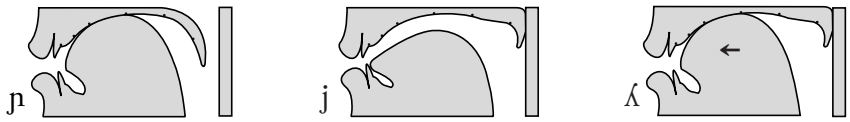
Although it is more complex, this clearer definition surely helps the reader to fully understand the mechanism of its articulation; and the consequential knowledge and phonetic richness leads to much more satisfying practical results. In fact, phonetics should not be carried out unwillingly, proceeding only by memorization. Phonetics is an artistic science, and as such, should be 'savored' and 'lived' in the best and most creative way (as we have already pointed out in § 1.4).

fig 1.7. Postalveolar and postalveopalatal protruded articulations.



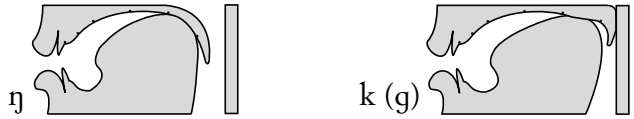
1.12. We next come to the true PALATAL place of articulation (*fig* 1.8), as with Italian /ɲ, j, ʎ/, or in Castilian Spanish *sueño*, *ciencia*, *calle* ['sweˑɲo, 'θjɛnθja, 'kaˑʎe], or in Italian *gnocco*, *paio*, *foglia* ['ɲɔkːko, 'paːjo, 'fɔʎːʎa]. English has /j/ in *yes*, *unit* ['jɛs, 'jʉunɪʧ].

fig 1.8. Palatal articulations.



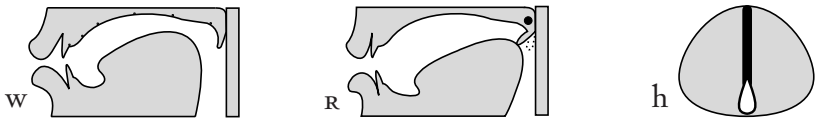
1.13. We also have the VELAR place (*fig* 1.9). The velar nasal, /ŋ/, is a phoneme in English (occurring between vowels as well): *sing*, *singing* [ˈsɪŋː, ˈsɪŋ-ɪŋ/. Moreover, there are the velar stops, /k, g/, also with their prevelar taxophones, occurring before palatal vocoids (or [j]), as in *cat*, *get* [ˈkʲhæʈ, ˈgɛʈ]. In Spanish and Italian, [ŋ] only occurs as a contextual variant (*ie* taxophone) of the phoneme /n/, as in Sp. *congreso* /konˈgɾeso/ [koŋˈgɾɛˑso] or It. *congresso* /konˈgrɛsso/ [koŋˈgrɛsːso].

fig 1.9. Velar articulations.



1.14. Adding lip rounding (as in [u]), we obtain the VELAR ROUNDED place of articulation (*fig* 1.10, on the left), as in /w/ in *wit*, *one* [ˈwɪʈ, ˈwɐnː], or in Spanish *cuatro* [ˈkwaˑtɾo], or Italian *uomo* [ˈwɔːmo].

fig 1.10. Velar rounded, uvular, and laryngeal articulations.



1.15. Farther back, we find the UVULAR place (*fig* 1.0, in the middle), which we will exemplify with the voiced trill, [ʀ]. It may advisable to use this symbol in phonemic transcriptions of French and German, even though the most frequent actual realization in these languages is not a trill (as will be seen later on). The purpose of this choice of a phonemic symbol is to make it particularly evident that the articulation is uvular (and not alveolar, [r], or postalveolar, [ɻ]): French *rare* /ˈʀaːʀ/ [ˈʁaːʁ], and German *rein* /ˈʀaen/ [ˈʁaen]. Let us observe that [ʁ] is a constrictive, while [ʁ] is an approximant: progressively weaker than [ʀ].

The last place of articulation (in this simplified table) is the LARYNGEAL place, most commonly represented by /h/ (*fig* 1.10, on the right), as in English *hat* [ˈhæʈ], and German *Hans* [ˈhanːs].

Manners of articulation

1.16. Now, in order to fully master the table of *fig* 1.3 (which can be pictured mentally as well, since it is fairly simple – though new to those who have never done phonetics), we will move on to the seven fundamental MANNERS OF ARTICULATION, using the same consonants, but from this opposing perspective.

The PLACE and the MANNER of articulation are two of the *three* components constituting the consonants – the third is the TYPE OF PHONATION, particularly the distinction VOICED ʊs VOICELESS.

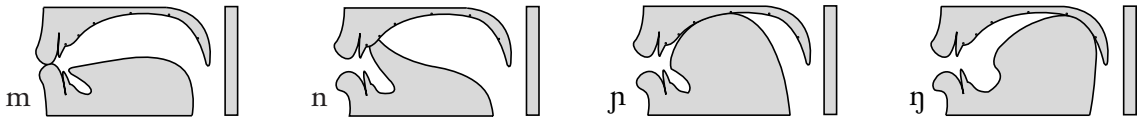
We will now move through the table, from the top downwards, so that we can see these MANNERS of articulation. The presentation will follow a quite precise physiological and articulatory logic, as we shall see.

1.17. *Nasal* (1). Lowering the velum, we open the passage to the nasal cavity, thus allowing expiratory air to escape from the nose. The result is the NASAL manner of articulation, which is combined with a closure produced somewhere in the mouth (in this table, in the bilabial, alveolar, palatal, or velar places).

However, these articulations should certainly not be called 'stops' (the next manner that we will consider), since nasal sounds are continuous, not momentary. Notwithstanding the closure in the oral channel, air can continuously escape through the nose, and the sound can be prolonged as long as expiratory air remains available.

The nasal consonants we have considered are [m, ɱ, n, ɲ, ɳ, ŋ] in English *man*, *singing* [ˈmæˑn, ˈsɪŋɪŋ], or in Spanish *mar*, *no*, *caña*, *tengo* [ˈmaɾ, ˈnɔ, ˈkaˑɲa, ˈtɛŋgo], or in Italian *mai*, *no*, *ragno*, *lungo* [ˈmaˑi, ˈnɔ, ˈraɲːɲo, ˈluŋːgɔ], and they are voiced. We group them together in ƒig 1.11 so that it can be easily seen that the velum is lowered in all of them.

ƒig 1.11. Nasal articulations.



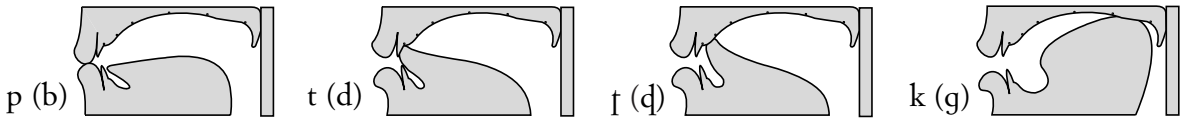
1.18. *Stop* (2). If, instead, the velum is raised (as in all the manners which follow), and a closure occurs, we have the STOP manner of articulation (ƒig 1.12). Here we have voiced and voiceless consonants, as in [p, b; t, d; ʈ, ɖ; k, g; k, g]: *pen*, *Ben*; *two*, *do*; *cot*, *got* [ˈphɛnː, ˈbɛnː; ˈʈhɯˑu, ˈɖɯˑu; ˈkhɒʈ, ˈgɒʈ]; and [t, d] *diente* (Sp.) [ˈdjɛn̪te]; *dente* (It.) [ˈdɛn̪ːte].

In all the figures given to illustrate the manners of articulation, the reader should pay particular attention to what they have in common (even between different places of articulation) – these common features are precisely the characteristics of the manner in question.

1.19. *Constrictive* (3). For now, it will be convenient to skip the manner which is 'halfway' between the preceding manner and this one (and indicated in the table as 2+3, since it results from a combination of those two manners in a single sound – the reason will be seen shortly).

We therefore come to the CONSTRICTIVE manner of articulation, characterized by the speaker bringing the articulatory organs sufficiently close together that there is an audible noise of air friction. The constrictive manner is characterized by this friction, which however differs quite a bit in sound, depending upon the

fig 1.12. Stop articulations.



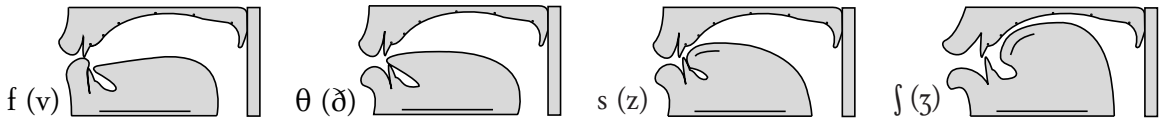
place of articulation. In the table of *fig* 1.3, we have four DIPHONIC PAIRS of constrictives (which appear in *fig* 1.13), *ie* [f, v; s, z; θ, ð; ʃ, ʒ], as in *five*, *seize*, *this thing*, *ash*, *rouge* [ˈfaˑəˬ, ˈsrˑiˬ, ðɪsˈθɪŋː, ˈæʃ, ˈɻuˑuˬʒ]. As we have indicated, a diphonic pair consists of voiceless and voiced elements, sharing the same place and manner of articulation.

The term CONSTRICTIVE is clearer and more appropriate, since it is articulatory in nature, and therefore easier to put into concrete relationship with the production of the sounds in question. However, due to a sort of pernicious inertia, the term 'fricative' is still more common (the term is auditory and semantically much less transparent).

fig 1.13. Constrictive articulations.

1.20. *Stopstrictive* (2+3). The combination of manners 2 and 3 produces the STOPSTRICTIVE manner, which naturally derives from *stop* + *constrictive*. The more common term 'affricate' is not articulatory, but rather auditory, and therefore less evident and less easily concretized.

Instead, the new term *stopstrictive* immediately communicates the exact nature



of the sound by virtue of its compound structure: the sound is composed of a first part which is incomplete, firmly joined to a second part, which characterizes it.

In the table, we have one diphonic pair of stopstrictives, [tʃ, ʤ], as in *match*, *age* [ˈmætʃ, ˈɛˑɪʤˬ]. The mechanism is a combination of the stop manner (2) and the constrictive manner (3), with a total *length* corresponding to that of a *single* segment, *not* to the sum of two segments. A duration equivalent to that of two segments is found instead in SEQUENCES /ts, dz; tʃ, dʒ/, such as, for example, *cats*, *heads* [ˈkhæts, ˈhɛˑdˬz], or French *patchouli*, *adjectif* [ˌpaʧʃuˈli, ˌaʤɛkˈʈif].

It is important to pay careful attention to the distinction between the stopstrictive symbols, [tʃ ʤ], which are *monograms*, and the symbols for *sequences*, /tʃ, dʒ/, which are similar, but clearly not identical. For instance, in English, we have *patchouli*, [ˈphætʃ-əli, pəˈʧhuuli/ and *adjective*, *agent* [ˈæʤəkʈɪvˬ, ˈɛɪʤənʈ]. The two successive phases of the articulation are, in fact, HOMORGANIC (*ie* produced in the same place of articulation). What occurs here is the combination of two different manners: the first half is a stop, corresponding in place of articulation to the constriction of the second half.

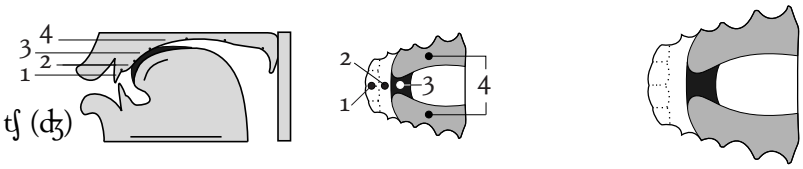
1.21. The best symbols for indicating stopstrictives are MONOGRAMS, as [ʧ, ʤ], which make three fundamental points quite clear: that the sound is a SINGLE

sound, and not two sounds in sequence (even though it is composed of two distinct phases), with the NORMAL *duration* of one segment.

In fact, for instance, in Italian it is possible to have phonemic oppositions such as the one between *mogio* 'downcast' and *moggio* 'bushel': /ˈmɔʤo, ˈmɔʤʤo/ [ˈmɔːʤo, ˈmɔʤːʤo], and HOMORGANIC, as was mentioned above – it is therefore not a simple combination of [t, d] with [ʃ, ʒ], as can unfortunately be read in certain linguistics texts (and even phonetics texts!).

In *fig* 1.14, the first phase is marked in black, while the second one is in grey (as with all the other articulations). The first phase is the *stop* phase, and the second is the *constrictive* one, with the articulatory organs close together, but without occlusion of the passage of air. The two diagrams on the right-hand side of *fig* 1.14 show the mechanism from another point of view: that of PALATOGRAMS.

fig 1.14. Stopstrictive articulations.



1.22. Comparing the orogram of [tʃ, ʤ] with that of [ʃ, ʒ] (*fig* 1.13), it is possible to see the difference between the constrictives and the stopstrictives, at least for the case of the postalveopalatal (protruded) place of articulation.

Both of these, in our figures, contain a horizontal line at the bottom, which by convention represents the noise common to the two manners. Instead, a curved line, at the height of the blade, represents (also by convention) a longitudinal groove.

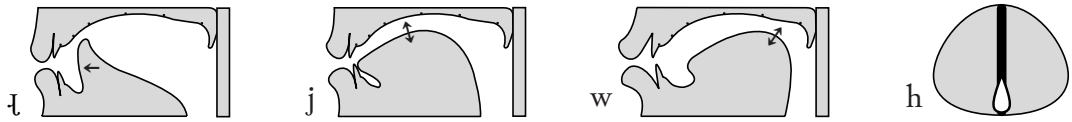
This groove is formed between the blade of the tongue and the part of the palatal vault that it approaches and partially touches. It is through the groove that air escapes, causing the hissing noises which characterize these GROOVED SOUNDS.

1.23. *Approximant* (4). The next manner, following the table of *fig* 1.3, is the APPROXIMANT manner. It is distinguished from the CONSTRICTIVE manner (3) because the articulatory organs are less close together, and as a result, they produce a less apparent noise. In fact, this noise is mostly heard only in the voiceless sounds, while in the voiced ones it is usually 'covered over' by the voicing produced by vocal-fold vibration.

fig 1.15 gives the orograms of [ɻ, j, w], in which the amount of space between the back of the tongue and the palatal vault is clearly visible. In the orthographic systems of different languages, [j, w] are found written both with 'vowel' graphemes and 'consonant' graphemes: *use*, *yes*, *quite*, *wet* [ˈjɥus, ˈjɛs, ˈkhwaɘʃ, ˈwɛʃ] in Italian, *ieri*, *uomo* [ˈjɛːri, ˈwɔːmo]. Both are voiced.

In the table of *fig* 1.3 (and *fig* 1.15, on the right), we have [h], as well. Although it is mostly foreign to the Romance languages, it is nevertheless very important in many other languages: English *hut* [ˈhɐʃ], German *Hut* [ˈhuːt]. It is voiceless, and produced in the glottis by opening the arytenoids. Therefore, it usuallt has no oral articulation of its own (except for coarticulation).

fig 1.15. Approximant articulations.



1.24. *Trill* (5). The second to last manner in the table is the TRILL manner. It regards sounds which produce a pair of rapid tapping contacts of the tongue tip against the alveolar ridge, in the case of [r] in Italian *rana* [ˈraːna], or of the uvula against the postdorsum, as in the [ʀ] theoretically possible for French *rue* [ˈʀy] or German *Rast* [ˈʀast].

In Spanish, the alveolar trill is typically longer: *rana* [ˈrːaˑna] (sometimes we find '/ˈrrana/', or, on the contrary, simply *perro* '/ˈpero/', for real [ˈpɛrːo], as opposed to *pero* '/ˈpeɾo/' [ˈpɛˑɾo]. Both are voiced, and both are shown in *fig* 1.16, where the tapping contacts are indicated schematically by the dark balls, and more concretely by the dashed outlines (more easily visible in the magnified versions on the sides).

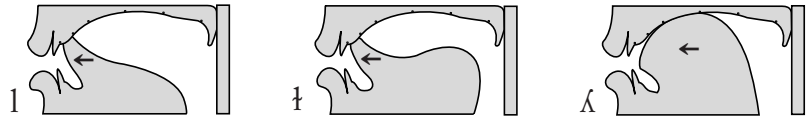
Later on, we will also encounter 'trills' with only one tapping contact (these are called TAPS). It will be seen, in any case, that the grapheme *r* does not represent a strong or weak trill at all, in many languages, but rather a constrictive or an approximant, in most cases (which we will see adequately, when necessary).

fig 1.16. Trill articulations.

1.25. *Lateral* (6). The last manner is the LATERAL one, in which the tongue, while touching a point on the palatal vault, contracts laterally, thereby permitting air to pass out by the sides of the tongue.

fig 1.17 shows the laterals [l, ʎ], as in *lily* [ˈlɪl-i], or in Castilian Spanish *calle* [ˈkaˑʎe], or Italian *luglio* [ˈluʎːʎo]. English and many other languages do not have any [ʎ] sound, but rather a velarized alveolar [ɬ], as in *fulfil* [fʊɬˈfɪɬː].

fig 1.17. Lateral articulations.



2.
A general approach to Natural Tonetics

Prosodic elements

2.1. While speaking of the vowels (§ 1.2), we have already mentioned the distinct role that segment DURATION (also called LENGTH or QUANTITY) can have in certain languages.

Normally, the CHRONEME, /ː/, is placed after a vowel when it is necessary to indicate length (as we have seen in § 1.2, in the case of German *Stadt* ['ʃtat] 'city' and *Staat* ['ʃtaːt] 'State').

At times, differences in duration are combined with differences in timbre, as we find, again in German, with *offen* ['ʔɔfn̩], *Ofen* ['ʔoːfn̩].

Duration can also be associated with diphthongization, as in English *bee*, *two* ['bɾi, 'tʰɻ·u]. Too often, these last examples are still transcribed '[biː, tuː]', as if they were actually long monophthongs (and, unfortunately, they are also often transcribed without a stress mark, as if monosyllables could not be either stressed or unstressed).

2.2. PHONEMIC LENGTH of consonants is better indicated by doubling, or more technically GEMINATING the symbol. This is especially true of languages such as Italian, where –phonetically as well– the consonants in question are truly GEMINATE, extending over two different syllables ([CC], and not merely 'lengthened' consonants, [Cː]): *vanno*, *detto*, *faccio*, *passo*, *carro*, *gallo* ['vanːno, 'detːto, 'fatʃːtʃo, 'pasːso, 'karːɾo, 'galːlo].

It is thus important to avoid transcriptions such as '/'vanːo, 'detːo, 'fatʃːo, 'pasːo, 'karːo, 'galːo]' (or, even worse, '/'fatːʃo/'). Let us also note English: *penknife*, *bookcase*, *this seat* ['pʰɛnˌnaɜf, 'bʊkˌkɛɪs, ðɪs'sɪiʈ].

PHONETIC LENGTH (which is not distinctive) of single elements, whether vowels or consonants, is marked with the CHRONE, [ː], or with the SEMI-CHRONE, [·] (when less duration is present): English *car*, *card*, *cart*, *cardigan* ['khɑː, 'khɑːɖ, 'khɑ·ʈ, 'khɑ·ɖɪgən], *sea*, *seed*, *seat*, *seeding* ['sɾ·i, 'sɾ·iɖ, 'sɪiʈ, 'sɪiɖɪŋ].

Stress

2.3. Word STRESS (as well as that of RHYTHM GROUPS, or *stress groups* – the first term is preferable) is marked by ['] in front of the syllable in question: *finally* ['faɜ-

nəli] (and certainly not in front of the stressed vowel, '[fˈaənəli]', nor above the vowel, '[fáənəli]'. Secondary stress, which is weaker (and generally, phonetic and not phonemic, *ie* without distinctive value), is denoted by [ˌ]: *dynamite* [ˈɖaənəˌmaəɽ] (not '[ɖˈaənəmˌaəɽ]', nor '[ɖáənəmàəɽ]').

Especially in Romance studies, terminological inertia has dragged obviously unscientific names through time from the Roman era to the present, and so we must insist, once again, that 'tonic' is completely inappropriate in the sense of STRESSED.

The word *tonic* clearly refers to the *tone* (pitch) of a syllable, not to its *stress*. The Romans took their terminology for syllable PROMINENCE from Greek, where prominence was *tonal* (determined by *pitch*, in addition to inevitable intensity), even though, in Latin, prominence was *intensive*, *stress-based*. All terms of this sort without scientific foundation should be rigorously avoided, since they cannot fail to produce dangerous conceptual misunderstandings.

2.4. In the case of stress position, it is also good to use scientific and objective terminology. We will therefore speak of FINAL-STRESSED words (stressed on the last syllable, rather than 'oxytone'), *ie* with stress on the last syllable: *ago*, *again*, *replace, kangaroo* [əˈgɜˑʊ, əˈgɛ(ɪ)n, ɻəˈphlɛɪs, ˌkhæŋgəˈɻuˑu].

Spanish *terminó*, *convoy*, *tendría*, *tomar* [ˌtɛrmiˈnσ, komˈbσi, tɛɾˈdɾia, toˈmaɾ]. Italian: *partirà*, *partirai*, *ferrovia*, *Manin* [ˌparʈiˈra, ˌparʈiˈraˑi, ˌfɛrroˈviˑa, maˈninː].

Next we have PENULTIMATE-STRESSED words (stressed on the last but one syllable, better than 'paroxytone'): *apparent*, *deductive*, *evolution* [əˈphæɻənʈ, ɖəˈɖɐkʈɪv̩, ˌɛvəˈlɯuʃn̩] or [ˌɪivə-].

Spanish: *termino*, *mañana*, *hermoso* [tɛrˈmiˑno, maˈɲaˑna, ɛrˈmσˑso], Italian: *ritorno*, *domani*, *principi* 'principles' (also written *princípi*) [ɾiˈtorːno, doˈmaːni, prɪɻˈʧiːpi] (different from *principi* 'princes', also written *príncipi*); PREPENULTIMATESTRESSED ones (stressed on the last but two syllable, better than 'proparoxytone'): *dedicate*, *cumbersome*, *curiosity* [ˈɖɛɖɻˌkheɪʈ, ˈkhɐmbəsn̩, ˌkhjɷəɻiˈɒsəʈi].

Spanish: *término*, *régimen*, *regímenes* [ˈtɛrmino, ˈrːɛximen, rːɛˈxiːmeneʂ], Italian: *ritornano*, *domenica*, *termino*, *fabbrica* [ɾiˈtorːnano, doˈmeːnika, ˈtɛrːmino, ˈfabːbɾika].

Much less frequently, we encounter words STRESSED ON THE FOURTH TO LAST SYLLABLE: *prosecutor*, *definitely* [ˈphɻɒsəˌkhjɷʈɐ, ˈɖɛfənətli].

Italian: *terminano*, *fabbricalo* [ˈtɛrːminaˌno, ˈfabːbɾikaˌlo]; on the FIFTH TO LAST: *cumulatively*, *positivism* [ˈkhjɯumjələˌʃɪvli, -ˌlɛɪtɪvli, ˈphɒz-əʈˌvɪzm̩], Italian: *fabbricamelo* [ˈfabːbɾikameˌlo].

And on the SIXTH TO LAST as in the very rare Italian form *fabbricamicelo* 'build it for me there, or by means of that, or out of that' [ˈfabːbɾikaˌmiʧeˌlo] (actually, a form made up purposely as an example, just to set a linguistic record).

Sentence stress

2.5. It is advisable to consider as SENTENCE STRESS, or *ictus*, every case of word stress which remains stressed in sentence context, and does not become reduced. When stress reduction actually occurs, it is a phonetic (rather than a phonemic)

phenomenon, as in Italian *tre gatti* 'three cats' [tɾeg'gat:t], where the isolated ['tre] loses its stress when placed in a rhythm group.

In English such a reduction does not occur; as a matter of fact, we can easily have examples such as: *Then three nice black cats ran out* ['ðɛn 'θɻɪ·i 'naəs 'blæk 'khæts 'ɻæn 'aʊɻ].

It is preferable to avoid using the term 'sentence stress' to refer to the sentence FOCUS; this last notion refers to the word, or words (and therefore concepts), which in a given utterance are communicatively more PROMINENT. In fact, they are highlighted by virtue of being new to the conversation (as opposed to being already given, or known).

2.6. Sentence stress and focus are in fact two distinct attributes, although they are not necessarily incompatible. In fact, they can both be present in the last stress group, even though this possibility is statistically the least frequent: *I never said that was true* [aə'nɛv-ə 'sɛd 'ðæp wəz̥'ɻhɻɻ·u..]. Or, in Italian, *Non ho mai detto che questo fosse vero* 'I never said that was true' [no,nɔmmai'detto ke,kwesto,fosse'veːɾo·.]).

In practice, it is much more probable that the sentences above would be said as [aə'nɛv-ə 'sɛ·d̥· 'ðæp wəz̥"ɻhɻɻ·u..], or better [aə"nɛv-ə 'sɛ·d̥· 'ðæp wəz̥'ɻhɻɻ·u..], or [aə-'nɛv-ə,sɛd̥.. ˌ'ðæp wəz̥'ɻhɻɻ·u..ˌ] (and [no,nɔmmai'detːto· ke,kwesto,fosse"veːɾo·.], or [no,nɔmmai"detːto· ke,kwesto,fosse'veːɾo·.], or also [ˌnonɔm'maidetto· ˌke,kwesto-,fosse"veːɾo·.ˌ]).

Therefore, a concrete utterance (which is sufficiently long) will have multiple *ictuses*, ie *protonic* syllables and one or more *tonic* syllables (in the rigorous sense of *stressed syllables* in the *tune*).

At the same time, the utterance can also have one or more points which are communicatively *highlighted* (ie the *sentence foci*), and these are generally expressed by different proportions of stress and pitch.

The sentence *These are the new co-workers of my neighbor Roberta* [ˌðɪizəðə'njɻ·u 'khɜɷ,wɜ·kəz əvmaə'nɛɪbə ɻə'bɜ·ɻɐ..] can be variously realized, with single or multiple highlights.

We can therefore encounter [ˌðɪizəðə'njɻ·u 'khɜɷ,wɜ·kəz· əvmaə'nɛɪbə ɻə'bɜ·ɻɐ..], or also [ˌðɪizəðə'njɻ·u· 'khɜɷ,wɜ·kəz· əvmaə'nɛɪbə ɻə'bɜ·ɻɐ..], or possibly [ˌðɪizəðə-'njɻ·u 'khɜɷ,wɜ·kəz· əvmaə'nɛɪbɐ· ɻə'bɜ·ɻɐ..], or else also [ˌðɪizəðə'njɻ·u· 'khɜɷ,wɜ·kəz· əvmaə'nɛɪbɐ· ɻə'bɜ·ɻɐ..]. Notice the importance of the continuative tune [·], even without a short pause [¦] (or longer: [|]).

2.7. Of course, similar subdivisions are possible for the corresponding Italian sentence, too: *Questi sono i nuovi colleghi della mia vicina Roberta*: [ˌkwesti,sonoi'nwɔ·vi kol'lɛːgi· ˌdella,miavi'ʧiːna ɾo'bɛɾːta·.], or also [ˌkwesti,sonoi'nwɔːvi· kol'lɛːgi· ˌdella,miavi'ʧiːna ɾo'bɛɾːta·.], or possibly [ˌkwesti,sonoi'nwɔ·vi kol'lɛːgi· ˌdella,miavi'ʧiːna· ɾo'bɛɾːta·.], or else also [ˌkwesti,sonoi'nwɔːvi· kol'lɛːgi· ˌdella,miavi'ʧiːna· ɾo'bɛɾːta·.].

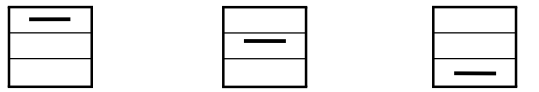
In any case, the elements highlighted can also be grammemes, in cases such as particular contrasts. With the examples above, we can have ['ðɾ·iz·], or [ðɪiz'ɑː·] (with *are* highlighted), or even [ðə,njɻu] (with *new* destressed, but with *my* highlighted, ['ma·ə], for some particular reason). Quite the same for Italian (and other languages).

Some kind of attenuation can occur in parts of the sentence rendered 'parenthetical', as in [ˌəvmaəˈnɛɪbə ɻəˈbɜˑʃɐ..ˌ], where *of my neighbor Roberta* is spoken as a sort of afterthought. Again, similar possibilities occur in the Italian example given: [ˌdellaˌmiaviˈʧiˑna ɾoˈbɛrːtaˑˌ] *della mia vicina Roberta*.

Tones

2.8. Certain languages have distinctive TONES; these are called, logically enough, TONEMES. Distinctive tones imply that when the pitch of a syllable changes, its meaning can change, as well. Let us look at, for example, the three basic ton(em)es of the African language Yoruba (cf fig 2.1): *ró*, *ro*, *rò* /¯ro, ˈro, _ro/ 'to drape, to till, to think'.

fig 2.1. The three Yoruba tonemes.



In fig 2.2, the four ton(em)es of Mandarin Chinese are shown: *mā*, *má*, *mǎ*, *mà* /¯ma, ˊma, ˌma, ˋma/ 'mother, hemp, horse, to curse'. Of course, in our book *Chinese Pronunciation & Accents*, all possible variants are clearly shown.

fig 2.2.
The four (Mandarin) Chinese tonemes.

Examining these fairly simple examples, it becomes clear that the graphic signs used are capable of referring to (quite) different tonetic realities in different languages.

Intonation

2.9. We will now concisely introduce the bare essentials of INTONATION. In fact, all languages have their own intonation systems, and phonetics should therefore not be treated without examining intonation, as well. Unfortunately, it is often left out entirely, even in descriptions of particular languages or in transcriptions of sentences or passages! A notably bad example of this omission is given by the 'official manual' of the International Phonetic Association: *Handbook of the International Phonetic Association*: *A Guide to the Use of the International Phonetic Alphabet* (found in the bibliography).

In every language the THREE MARKED TUNES (/. ? ;/) and the UNMARKED PROTUNE (the normal / /, without a special symbol) should be clearly indicated with appropriate symbols (both on a phonetic, or rather, TONETIC level, and on a phonemic, or TONEMIC one). The *tune* involves the final stressed syllable of an utterance and the syllables around it (cf fig 2.3), while the *protune* is what is found

before the tune in the same intonation group (*cf fig* 2.3, on the right). In the example *his cousin's name is Bartholomew* [hɪzˈkhɐzn̩z ˈnɐɪm ɪzbɑˈθɒl-əmjɯu..], the tune is constituted by the full name of *Bartholomew*, while the protune is everything prior to it: *his cousin's name is…*

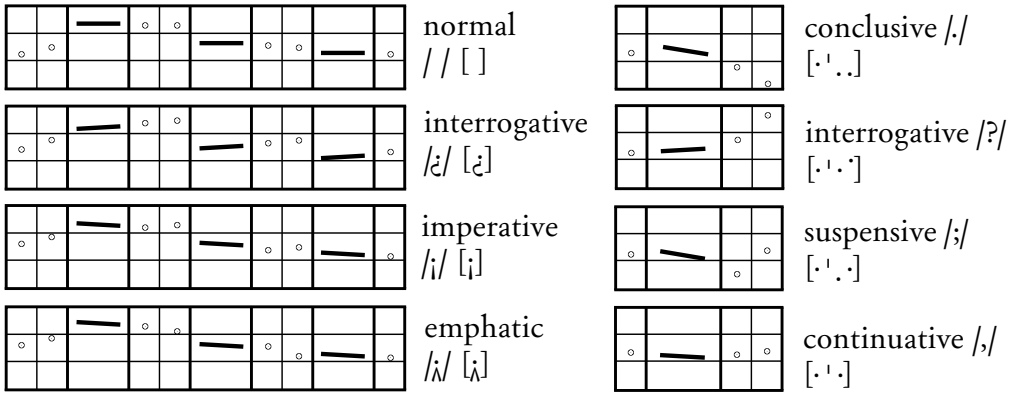
The example of *Bartholomew* is particularly interesting because it allows us to consider the four ideal components of a tune: the *pretonic* syllable (*Bar-*), the *tonic* syllable (*-thol-*), and the two *posttonic* ones (*-omew*).

The pronunciation of this example normally provides a reasonably adequate realization of the schematic tonal movements shown in *fig* 2.3 (which besides the unmarked protune and the three marked tunes, give the important interrogative protune, /¿/, which is marked, and the continuative intoneme, /,/ – which is unmarked).

2.10. If the example were *his cousin's name is Dick* [hɪzˈkhɐzn̩z ˈnɐɪm ɪzˈɖɪk..], the tune would be *is Dick*. The tonic and posttonic syllables would consist of only one syllable (*Dick*). In consequence, the ideal movement shown in the diagrams (for the case with four syllables) would be compressed, not just horizontally, but inevitably in terms of the vertical range, as well. When only one syllable is present (as in the answer to a question like *what is his cousin's name? – Dick*), the result is a fusion of the expected pitch patterns which maintains the characteristic movements, but in an attenuated form.

The intonation schemes of the British school were among the few to have some practical use; but precisely for the reasons considered here (and in general), they are sometimes decidedly excessive. In fact, for [·ˈ..] or [·ˈ·˙] (*cf fig* 2.3), they give diagrams like ◝ or ◞ when there is only one short voiced element: for example for [ɪ] in *Dick* – if the result were truly as extended as their diagrams show, it would rather sound like a police siren!

fig 2.3. The four protunes and tunes of neutral British English.



2.11. The protune and the tune taken together form an INTONATION GROUP more usefully called TUNING. We use examples such as *My favorite dictionary*, or *That patient thinks he's Giuseppe Verdi*, to show that the parts of an intonation group do not necessarily respect word boundaries. In fact, the tunes in these utterances are, respectively: [ɻəɟˈɖɪkʃn̩ɻi..] and [iˈvɛəɖi..] (*-rite dictionary* and *-pe Verdi*).

The protunes, on the other hand, are [ˈðæts məˈfɛɪv] and [ðæpˈphɛɪʃn̩t ˈθɪŋks ɪz-

ʤʊuˈsɛp] (*My favo-* and *That patient thinks he's Giusep-*). The full examples are: [ˈðæts məˈfɛɪvɻəɻ ˈɖɪkʃɳɻi..] and [ðæpˈphɛɪʃɳt ˈθɪŋks izʤʊuˈsɛp-i ˈvɛəɖi..].

It will be seen that our transcriptions are not subdivided pedantically along word boundaries. That practice is still quite common (in the best case, motivated by hopes of helping the reader). It is much more useful to subdivide transcriptions into rhythm groups, as we have done, instead of giving things (and symbols) like '[ˈðæt ɪz ˈmaɪ ˈfeɪvrət ˈdɪkʃənri]'.

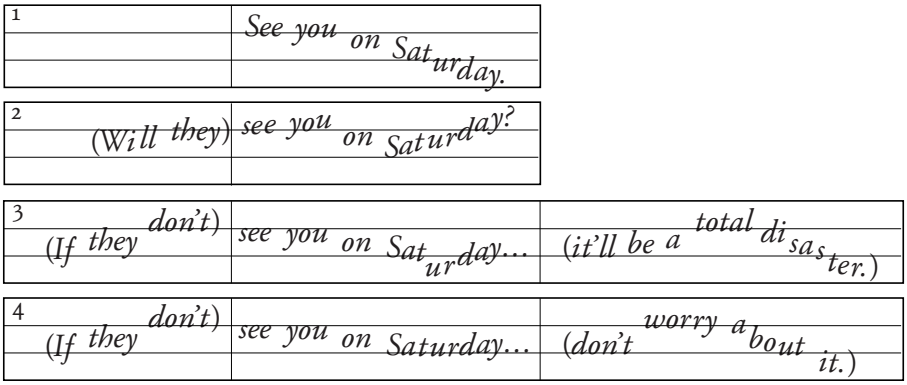
Or '[ˈðæt ˈpeɪʃnt ˈθɪŋks hiːz ʤuːˈsepi ˈveədi]', where the stresses and some un-reduced forms (for current reduced forms or 'weak forms') are also unnatural (*ie* in the cases of '/ɪz ˈmaɪ/' in the first example and '/hiːz/', at least, in the second, which are weakened in normal speech, both articulatorily and prosodically).

2.12. Another (not unimportant!) counsel regards the fact that 'sounds have no capitals'; note that, for other reasons, the traditional orthographies of languages such as Arabic and Hindi, and Chinese and Japanese as well, have no capital letters. Children can easily tell that there is no phonic difference between *smith* and *Smith*, or between Italian *franco* and *Franco* – both of the English examples are pronounced exclusively [ˈsmɪθ], and the Italian ones are both pronounced [ˈfraŋːko].

And yet, even in textbooks, all too often we find (printed, as well) atrocities such as '[Dʒuːˈsepi ˈVeədi]' and also '/ˈMaɪ/' absurdly derived from writing conventions! The 'transcription' of *My* is given with a capital letter, because it is the first word in the sentence! Moreover, the transcription of *Giuseppe* uses a capital letter because the word is a proper name, and the result is an inappropriate and ambiguous digram, *Dʒ*, instead of a slightly less forced *DƷ*, which would at least represent the unity of the sound [ʤ] better.

2.13. ƒig 2.4 will be a useful explanatory tool in order to understand more explicitly the use of tonograms (given that we are not all musicians or singers, for whom the analogy with a musical score is obvious). Let us observe, then, the graphemic text, to which we have given the form of the intonation curve. Normally this curve is shown with the lines and dots of tonograms, but here we have used a more 'intuitive' approach.

ƒig 2.4. An iconic way to introduce people to intonation.



We show just four examples, based on the segment *see you on Saturday* (in neutral British pronunciation), expressly to compare them with ˥̄ and ⌋̄ , seen above. These examples contrast pairwise: a *conclusive* utterance is contrasted with an *interrogative* one (of a total question), and a *suspensive* utterance with a *continuative* one.

2.14. In the case of the last two sentences, the semantic importance of what follows (given in parentheses) is fundamental, whether it is expressed out loud, or instead remains implicit. In any case, the suspensive tune is characterized by decidedly greater and more immediate anticipation, while this is lacking with the continuative. This difference, and certainly not their syntax, explains the difference in intonation between the third and fourth examples.

Applying the movements of the three tunes to a slightly different example, we see that in neutral (better than 'standard') British English, the *conclusive tune* is falling (/./ [·ˈ. .]), of the type shown in *fig* 2.3: *Christian* [ˈkhɻɩstʃəṇ.] (and also in three examples in *fig* 2.4).

The *interrogative tune* is rising (/?/ [·ˈ·˙]), as in the question *Christian?* [ˈkhɻɩstʃən·˙]. The third tune, the *suspensive*, is used to create a sort of anticipation, or 'suspense'. In neutral British pronunciation, it is falling-rising, /;/ [·ˈ. ·]: *Although his name's Christian,* –[ˈkhɻɩstʃəṇ·]– *he's no good Christian at all.*

2.15. In *fig* 2.3 (as well as in the second example of *fig* 2,4), we have the *interrogative protune*, /¿/, as well. This protune is a modification of the normal protune, and it anticipates on the rhythmic-group syllables of the protune the characteristic movement of the interrogative tune (although in an attenuated form).

Obviously, in the part specifically dedicated to the topic, we will be more explicit and more exhaustive. Here, we remark only that the interrogative protune is the same in all types of questions, whether these are TOTAL questions, like *Is his cousin's name Christian?*, or PARTIAL ones (containing a question word, such as *why*, *when*, *who*, *how*…), such as *Why is his cousin's name Christian?*

We must warn the reader that, contrary to what grammar books and writing--based teaching imply, not all questions have an interrogative tune, nor should they.

In fact, partial questions, in order to sound truly natural and authentic, should be pronounced with a conclusive tune (or at most, with the unmarked *continuative* tune, with pitch in the mid band, which will be seen in greater detail later on): *Why is his name Christian?* [¿¯waɘɩz (h)ɩzˈnᴇ·ɪm ˈkhɻɩstʃəṇ.] (or [ˈkhɻɩstʃən·], with a continuative tune).

2.16. Let us conclude this chapter by drawing attention, again, to *fig* 2.3. The left bottom part of it shows two more protunes and their typical movements. The imperative one, /¡/, and the emphatic one, /¡̂/, which do not need any explanation.

3.
Vowels

Vowels & diphongs

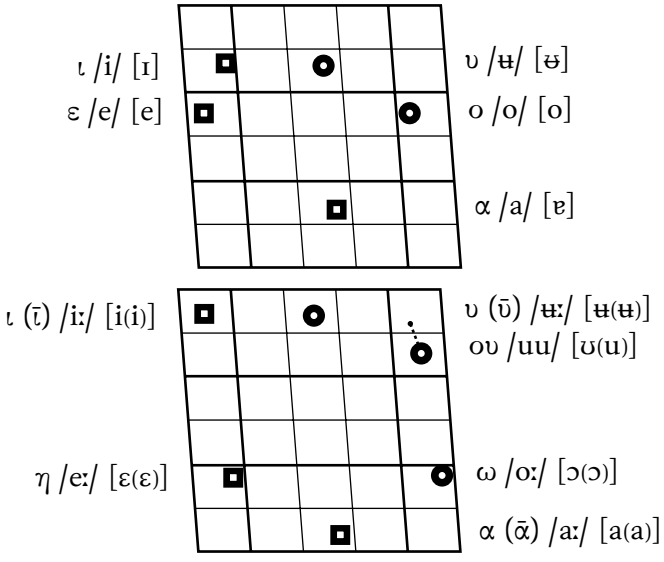
3.1. In a phonemic transcription of Greek, we may use some more general (less precise: *offIPA*) symbols, especially for the vowels, wanting to represent the phonemes, with their substantial 'durational' peculiarities, certainly followed by their real phones (with necessary clear timbres).

As *fig* 3.1 shows, ancient Greek had 5 short: ι, ε, α, ο, υ /i, e, a, σ, ʉ/ [ɪ, e, ɐ, o, ʊ̈], and 5 long vowels: ι (ῑ), η, α (ᾱ), ω, υ (ῡ) /iː, eː, aː, oː, ʉː/ [i(i), ɛ(ɛ), a(a), ɔ(ɔ), ʉ(ʉ)], with the addition of the narrow diphthong /uu/ [ʊ(u)], which behaves as a long vowel, although it actually has two partially different components. The brackets indicate their shortened taxophones, which occur in unstressed syllables.

Besides, the brackets also show that the 'long' vowels, /V:/, in fact, are monotimbric diphthongs, [VV], rather than real long vocoids, '[V:]'. Unfortunately, ῑ, ᾱ, ῡ for /iː, aː, ʉː/, are only used in specialized publications, such as good dictionaries, grammars, and texts, but unsystematically and usually written as simple ι, α, υ (however, see § 0.17-9).

Examples: ἔστι /ˈisti/ [ˈɪs̠tɪ], κρίνω /ˈkɾiːnoː/ [ˈkɾiiˌnɔ], λέγε /ˈlege/ [ˈle̠ge], λήθη /ˈleːtheː/ [ˈlɛɛ̯̠thɛ], θάλασσα /ˈthalassa/ [ˈthɐ̯̠lɐs̠sɐ], πᾶς /ˌpaːs/ [ˌpaas], ὅ μικρόν /ˈo miːˈkɾon/ [ˌo̯̠miˈkɾon], πώλως /ˈpoːloːs/ [ˈpɔɔ̯̠lɔs], γλυκύς /glʉˈkʉs/ [ˌglʊ̯̈ˈkʊ̯̈s], δεικνύς /deikˈnʉːs/ [ˌdeɪ̯̠kˈnʉʉs].

fig 3.1. Ancient Greek short & 'long' vowels, including ου /uu/ [ʊ(u)].



3.2. It is important to know exactly that each vocalic element, in our phonemic transcriptions, represents a corresponding mora.

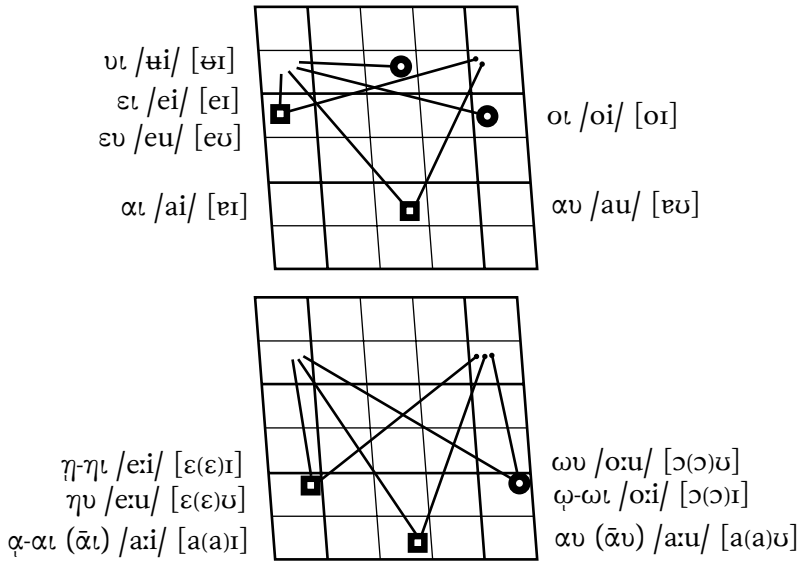
A single mora correponds to a unitary short vocalic entity, which is paramount for stress assignment, depending on the weight of the various syllables that form given words. Of course not every single mora forms a syllable.

In fact, two contiguous moras form a 'long' (or heavy) vovel, or a plain (or simple, or normal, or 'short') diphthong, while three moras form a 'hyper-long' (or 'hyper--heavy') syllable, or 'long' diphthong, as *fig* 3.2 will show (but see also § 3.16-18!).

3.3. Thus, the first vocogram in *fig* 3.2 shows 6 'short' diphthongs (*ie* /VV/ [VV]), while the second one shows 6 'long' diphthongs (*ie* /V:V/ [V(V)V]). Our examples will show both these 12 diphthongs and many others (including triphthongs), which, traditional grammar, 'unphonically' because enslaved by morphology and lexicon, scatters around in different 'syllables'.

The examples appear dispersedly, 'in twos and threes', in order not to make any distinction among them, while avoiding monotonous reading, too.

fig 3.2. Ancient Greek 'short' and 'long' diphthongs (for /uu/ [ʊ(u)], see *fig* 3.1).



3.4. Examples: ταὐτό /ta:uˈto/ [ˌtaʊˈto], ηὑρέϑην /he:uˈrethe:n/ [ˌhɛʊˈɾeˌthɛn], πρωὐδᾶν /pro:uˌda:n/ [ˌpɾɔʊˌdaan], ῥᾴων /ˈɾa:i:n/ [ˈɾaaɪˌjɔn], πατρῷος /paˌtro:ios/ [ˌpɐˌtɾɔɔɪ-ˌjos], κωμῳδός /ko:mo:iˈdos/ [ˌkɔˌmɔɪˈdos], τραγῳδός /tɾago:iˈdos/ [ˌtɾɐˌgɔɪˈdos], Θρᾷξ /ˌthɾa:iks/ [ˌthɾaaɾks], βοᾷς /boˌaais/ [ˌboˌaaɪs], Ἅιδης /ˈha:ide:s/ [ˈhaaɪˌdɛs], ἔκλυον /ˈe-klʉon/ [ˈeˌklʊˌɥɒn], κλύω /ˈklʉo:/ [ˈklʊˌɥɔ], οἰκίον /oiˈkion/ [ˌoɪˈkɪˌjon], αἴσιος /ˈaisios/ [ˈɐɪˌsɪˌjos], ἀίσσω (ἀΐ-) /a(:)ˈisso:/ [ˌɐˈɪsˌsɔ, ˌa-], ἀίδιος (ἀΐ-) /aːˈidios/ [ˌaˈiiˌdɪˌjos], ἄιστος /ˈaistos/ [ˈɐɪsˌtos], ἀικῶς /aːiːˌkoːs/ [ˌaiˌkɔɔs], ἀική /aːiːˈkeː/ [ˌaiˈkɛɛ].

And: ἔμεναι ἄγαμος /ˈemenai ˈagamos/ [ˈeˌmeˌnɐɪ ˈjɐˌgɐˌmos], τίμησόν μοι υἱόν /ˈtiːmeːˈson moihʉiˈon/ [ˌtiˌmɛˈsom ˌmoɪˌhɟʊɪˈjon], ὀπωρινῷ ἐναλίγκιον /opoːɾiˈnoːi enaˈlinkion/ [ˌoˌpɔˌɾɪˈnɔɔɪ ˌjeˌnɐˈlɪŋˌkɪˌjon], σκαιῇ ἔγχος /skaiˌeːi ˈenkhos/ [sˌkɐɪˌjɛɛɪ

ˈjeŋ.khos], ἀπειρία /apeiˈria:/ [ˌɐ.perˈrɪ.ja], αὖρα /ˈaura:/ [ˈɐʊ.ra], ἀϋτέω /au̯:ˈteo:/ [.ɐu̯ˈteɔ], εἶθε! /ˌʌˈeithe/ [ˌʌˈeɪ.the], εἶα! /ˌʌeɪa:/ [ˌʌˈeɪ.ja].

And: οὗτοι /ˈuutoi/ [ˈʊu.toɪ], οὕθεἰς /uuˈtheis/ [.ʊˈtheɪs], οὐδαμοῖ /uudaˌmoi/ [.ʊ-.dɐˌmoɪ], οὐά /uuˈa/ [.ʊˈwɐ], ἥ /ˌhe:i/ [ˌhɛɛɪ], ἥα /ˌe:ia/ [ˌɛɛɪ.ja], ἠγέομαι /he:ˈgeomai/ [.hɛˈgeo.mɐɪ], ἡδυετής /he:du̯eˈte:s/ [ˌ.hɛ.du̯eˈtɛɛs], ἠθεῖος /e:ˌtheios/ [.ɛˌtheɪ.jos], ἤ-θεος /ˈe:itheos/ [ˈɛɛɪ.theos], ἠϊόεις /e:iˈoeis/ [.ɛɪˈjoeɪs], ἤϊκτο /ˈe:ikto/ [ˈɛɛɪk̚.to], ἔοικα /ˈeoika/ [ˈeoɪ.kɐ], ἠϊών /e:iˈo:n/ [.ɛɪˈjɔɔn].

3.5. Other examples: ἄω /ˈa:o:/ [ˈaaɔ], ἄωτος /ˈao:tos/ [ˈɐɔ.tos], ἀάατος /aˈa(:)atos/ [.ɐˈaaɐ.tos, .ɐˈɐɐ.tos], ἑᾠος /heˌo:ios/ [.heˌɔɔɪ.jos], ἕως /ˈheo:s/ [ˈhecs], εὐοῖ! /ˌʌeuˌoi/ [ˌʌ.eʊ-ˌwoɪ], εὔοικος /ˈeuoikos/ [ˈeʊ.ɯoɪ.kos], εὔπαις /ˈeupais/ [ˈeʊ.pɐɪs], ὕαινα /ˈhu̯aina/ [ˈhʊ-.ɥɐɪ.nɐ], υἱός /hu̯iˈos/ [.hʊɪˈjos], υἱωνός /hu̯io:ˈnos/ [ˌ.hʊɪ.jɔˈnos], ὗελος /ˈhu̯elos/ [ˈhʊe-.los], ὑέτιος /hu̯:ˈetios/ [.hu̯:ˈɥe.tɪ.jos], ὑϊκός /hu̯iˈkos/ [.hʊɪˈkos], ὑλήεις /hu̯:ˈle:eis/ [.hu̯-ˈlɛɛeɪs], εὐάζω /euˈadzo:/ [.eʊˈwɐd.zɔ].

3.6. Further examples: λύῃ /ˈlu̯e:i/ [ˈlʊ.ɥɛɪ], ἡδίω /he:ˈdio:/ [.hɛˈdɪɔ], φιλοῖς /phiˌlois/ [.phɪˌloɪs], πλείους /ˈpleiuus/ [ˈpleɪ.jʊs], τιμᾷς /tiːˌmaːis/ [.tiˌmaaɪs], φιλῇς /phiˌle:is/ [.phɪˌlɛɛɪs], ζῴην /dˈzo:ie:n/ [dˈzɔɔɪ.jɛn], ῥιγῷς /ɾiːˌgo:is/ [.ɾiˌgɔɔɪs], εὖνοι /ˌeunoi/ [ˌeʊ.noɪ], ποιέω /poiˈeo:/ [.poɪˈjeɔ], ποιήσω /poiˈe:so:/ [.poɪˈjɛɛ.sɔ], τίω /ˈti:o:/ [ˈtii.jɔ].

And: δουλόω /duuˈloo:/ [.dʊˈloɔ], δουλώσω /duuˈlo:so:/ [.dʊˈlɔɔ.sɔ], λύω /ˈlu̯:o:/ [ˈlʊʊɔ], λύσω /ˈlu̯:so:/ [ˈlʊʊ.sɔ], δοκεύει /doˌkeuei/ [.doˌkeʊ.ɯeɪ], δῖος /ˌdi:os/ [ˌdii.jos], τοιαῦται /toiˌautai/ [.toɪ.jɐʊ.tɐɪ], βουλεύσειε /buuˈleuseie/ [.bʊˈleʊ.seɪ.je], ἄξιος /ˈak-sios/ [ˈɐk.sɪ.jos].

3.7. Here are some examples taken from Homer: ἠελίοιο /e:eˈlioio/ [.ɛeˈlɪ.joɪ.jo], ὃ ἔγνω /hoˈegno:/ [.hoˈweg.nɔ], καὶ αἴτιον /kaiˈaition/ [.kɐɪˈjɐɪ.tɪ.jon], τί ἔκλυες; /ˌtiˈ-ˈeklu̯es/ [ˌtɪˈje.klʊ.ɥes], σύ ἐσσι /ˈsuessi/ [ˈsʊ.ɥes.sɪ], ἄνδρα μοι ἔννεπε /ˈandɾa moiˈenne-pe/ [ˈɐn.dɾɐ .moɪˈjen.ne.pe], κλῦθί μευ ἀργυρότοξ /ˌklu̯:ˈthi meʊarguˈrotoks/ [.kluʊˈthɪ

fig 3.3. Ancient Greek short & 'long' vowels possible in unstressed syllable in very fast speech.

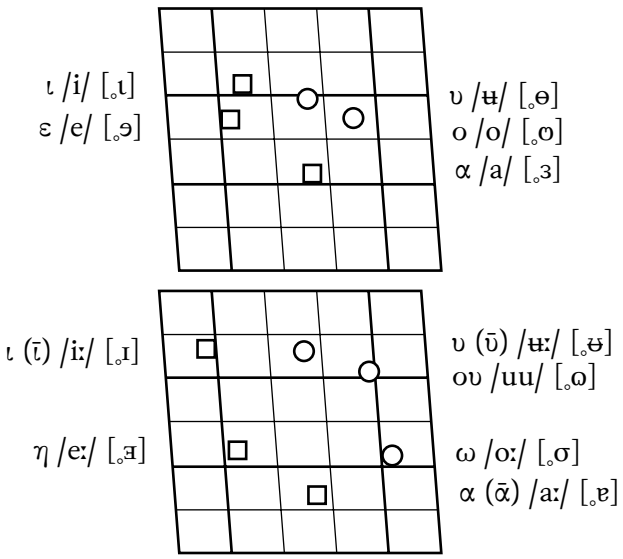
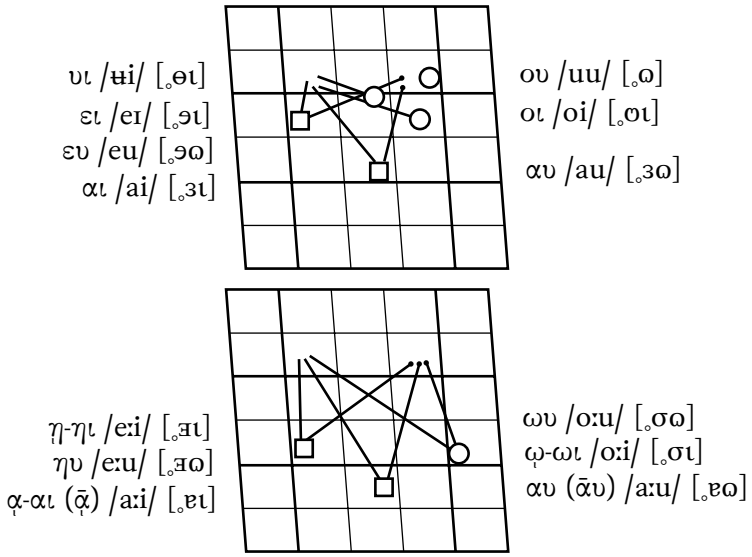


fig 3.4. Ancient Greek short & 'long' diphthongs possible in unstressed syllable in very fast speech.



.meʊ̯.ωɐɾ.gʊ̯ˈɾo.toks], πλάγχθη ἐπεί /ˈplankhtheː eˈpei/ [ˈplɐŋk.thɛe ˈpeɪ], οὐδέ πω Ἕκτωρ /uuˈde poːˈhektoːr/ [ˌʊˈde .pɔˈheƙ.tɔr].

3.8. *fig* 3.3 shows the short vowels (first vocogram) and the 'long' ones (second vocogram) as they might be realized in unstressed syllables, in very quick speech, to give real authenticity to the language, in direct contrast with the 'language' of artists.

So, *fig* 3.4 shows the short diphthongs (first vocogram) and the 'long' ones (second vocogram) as they are realized in unstressed syllables, in very quick speech. As an example, let us compare the initial part of the story transcribed in § 6.3.

Βορέας καὶ Ἥλιος περὶ δυνάμεως ἤριζον· ἔδοξε δὲ αὐτοῖς ἐκείνῳ τὴν νίκην ἀπονεῖμαι, ὅς ἄν αὐτῶν ἄνθρωπον ὁδοιπόρον ἐκδύσῃ. Καὶ ὁ Βορέας ἀρξάμενος σφοδρὸς ἦν· τοῦ δὲ ἀνθρώπου ἀντεχομένου τῆς ἐσθῆτος μᾶλλον ἐπέκειτο.

Neutral: [.boˈɾeas .kɐɾˈɦɛɛ.lɪ.ɹos .pe..ɾɪ.dʊ̯ˈnɐ.meɔ ˈsɛɛ.ɾɪd.zon·¦ ˈe.dok..se .deɐʊ̯.toɪ.seˈƙeɪ.nɔɪ .tɛnˈnii.ƙɛ ..nɐ.poˌneɪ.mɐɪ.ˈ¦ .ɦo..sɐ.nɐʊ̯.tɔ ˈnɐɲ.thɾɔ.pon ..ho.doɪˈpo.ɾo .neƙˈdʉʉ .sɛɪ.ˈ| ..kɐɪ.ɦo.boˈɾea .sɐɾkˈsɐ.me..nos .pho_dɾo.sɛn.ˈ¦ .tʊ.deɐɲˈthɾɔɔ.pʊu.ωɐɲ ..te.khoˈme.nʊ .tɛ.ses\thɛɛ.toz ˌmaal.lo .neˈpe.ƙeɪ.toˑ].

Fast colloquial: [.bʊˈɾeɐs .kɜɪˈɦɛɛ.lɪʊs .pə..ɾɪ.dʊ̯ˈnɐ.mɘɔ ˈsɛɛ.ɾɪz.zʊn·¦ ˈe.dʊk..sə .dəɜʊ̯.tʊɪ.sʊ̯ˈkeɪ.nɔɪ .tɘnˈnii.ƙɘ ..nɜ.pʊˌneɪ.mɜɪ.ˈ¦ .ɦʊ..sɜ.nɜʊ̯ˌtɔ ˈnɐɲ.θɾʊ̯.pʊn ..hʊ.dʊɪˈpo.ɾʊ .nəƙˈdʉʉ.sɛɪˑ.| ..kɜɪ.ɦʊ.bʊˈɾeɜ .sɜɾkˈsɐ.mə..nɔs .ɸʊ_dɾo.sɘn.ˈ¦ .tʊ.dəɜɲˈthɾɔɔ.pʊɜɲ ..tə.xʊˈme.nʊ .tɘ.səsˌθɛɛ.tɔz ˌmaa.lʊ .nəˈpe.ƙeə.tʊˑ].

Additional views

3.9. The following figures present the vocoids seen so far, under different perspectives, which will complete their precise nature. So, we have: dorsograms, palatograms, and labiograms.

fig 3.4.1. Ancient Greek: orograms (*cf fig* 3.1-4).

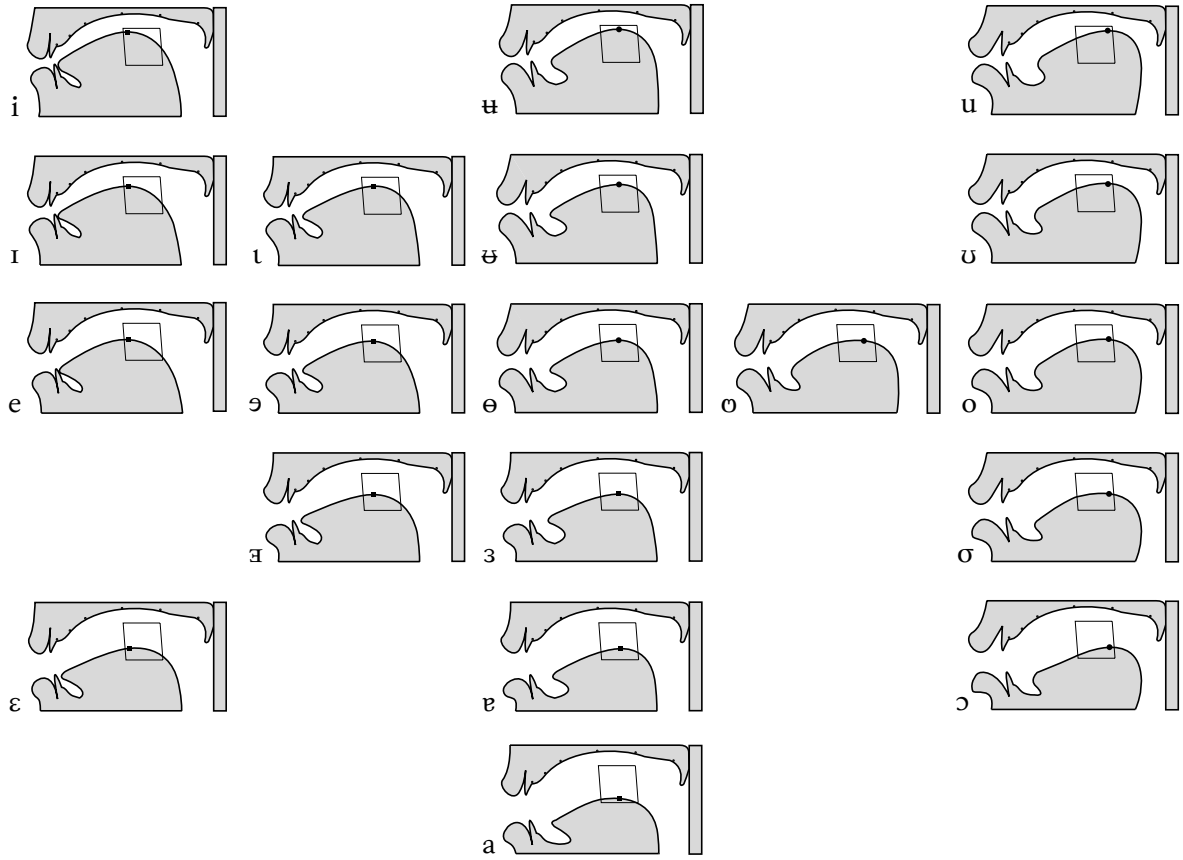


fig 3.4.2. Ancient Greek: palatograms (*cf fig* 3.1-4).

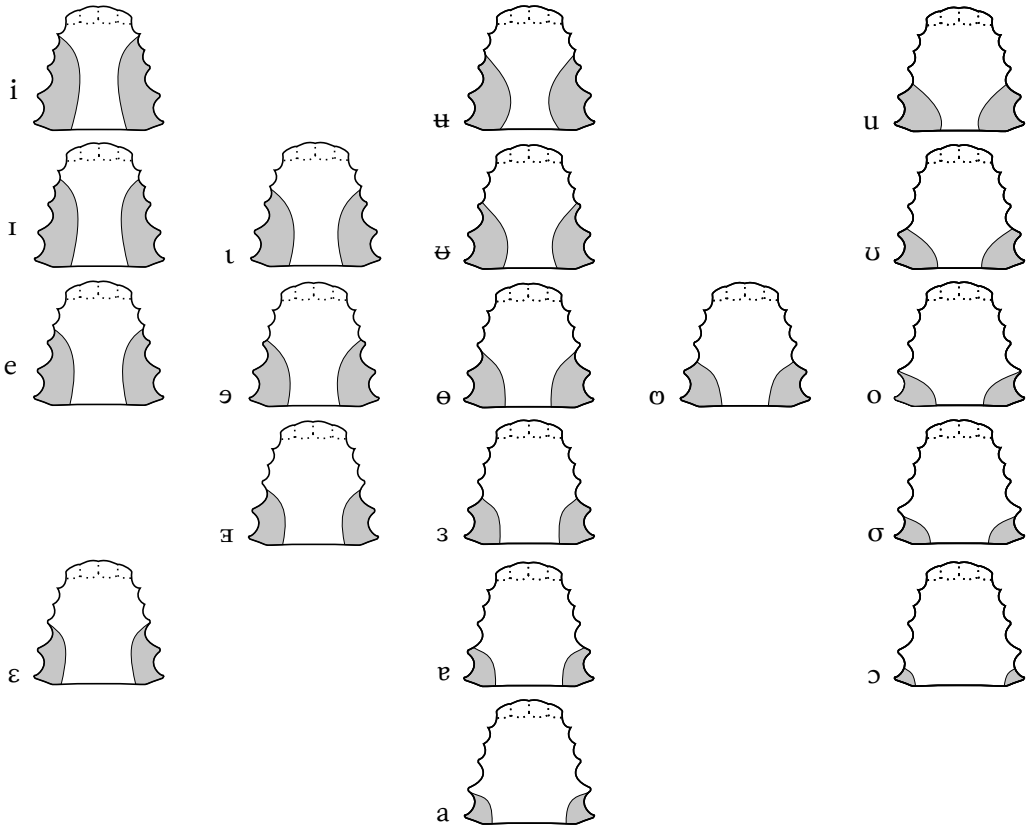
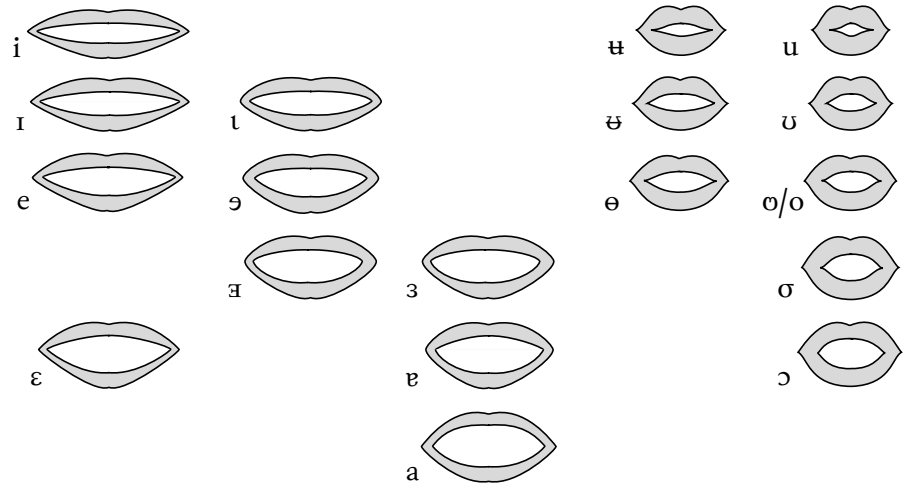


fig 3.4.3. Ancient Greek: labiograms (*cf fig* 3.1-4).



Additional information

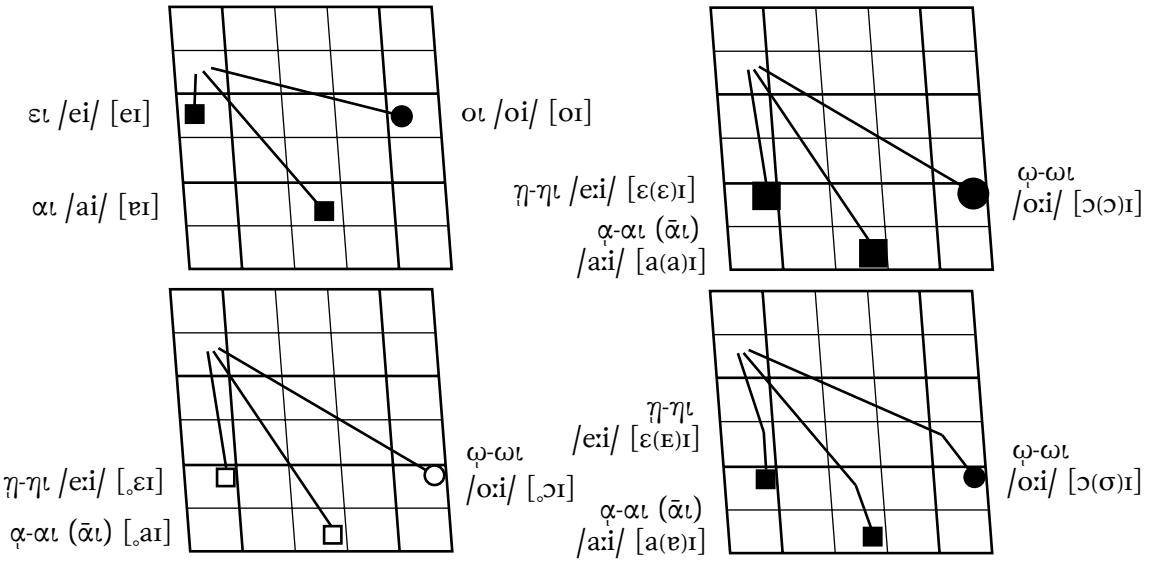
3.10. There is something more to say about the diphthongs of ancient Greek. In fact, *fig* 3.5 gives the three very common 'short' diphthongs (first vocogram) ει, αι, οι /ei, ai, oi/ [eɪ, ɐɪ, oɪ], in comparison with the corresponding three 'long' ones (second vocogram), ηι-ῃ, ᾱι-ᾳ, ωι-ῳ /e:i, a:i, o:i/ [ɛ(ɛ)ɪ, a(a)ɪ, ɔ(ɔ)ɪ] (*cf* § 3.16-18!).

In addition, the fourth vocogram provides a common variation of the 'long' diphthongs, realized as triphthongs: [ɛ(ɐ)ɪ, a(ɐ)ɪ, ɔ(ʊ)ɪ].

Again, the vocoids in brackets disappear in fully unstressed syllables, but their timbres remain distinct from ει, αι, οι /ei, ai, oi/ [eɪ, ɐɪ, oɪ], as the third vocogram shows. Besides, the third vocogram shows the three 'long' diphthongs in unstressed syllable.

3.11. Let us also look at *fig* 3.6, which shows a fascinating hypothesis (more likely than not, indeed), which leads us to consider the Hellenistic-Byzantine intro-

fig 3.5. Ancient Greek: comparison between three common 'short' and 'long' diphthongs.



duction of *iota subscript* (ᾐ, ᾳ, ῳ) as a kind of *diagraphemic* way to hint at a possible *sociophonic diaphonemic* reality.

This deals with the change from ηι, αι, ωι /e:i, a:i, o:i/ [ɛɛɪ, aaɪ, ɔɔɪ] (first vocogram) to their succeeding actual reality, during the Classical period: ᾐ, ᾳ, ῳ /e:, a:, o:/ [ɛɛ, aa, ɔɔ] (third vocogram). They coincide with the corresponding previous long phonemes η, α, ω /e:, a:, o:/ [ɛɛ, aa, ɔɔ] (already seen in the second vocogram of *fig* 3.1).

fig 3.6. Ancient Greek: evolution to /e:, a:, o:/ [ɛɛ, aa, ɔɔ] in certain words.

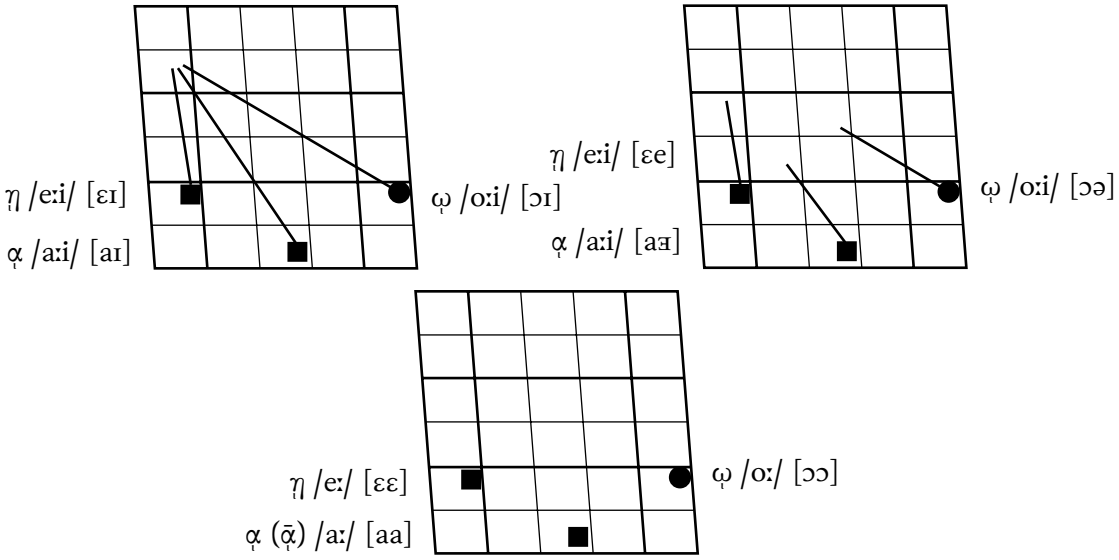
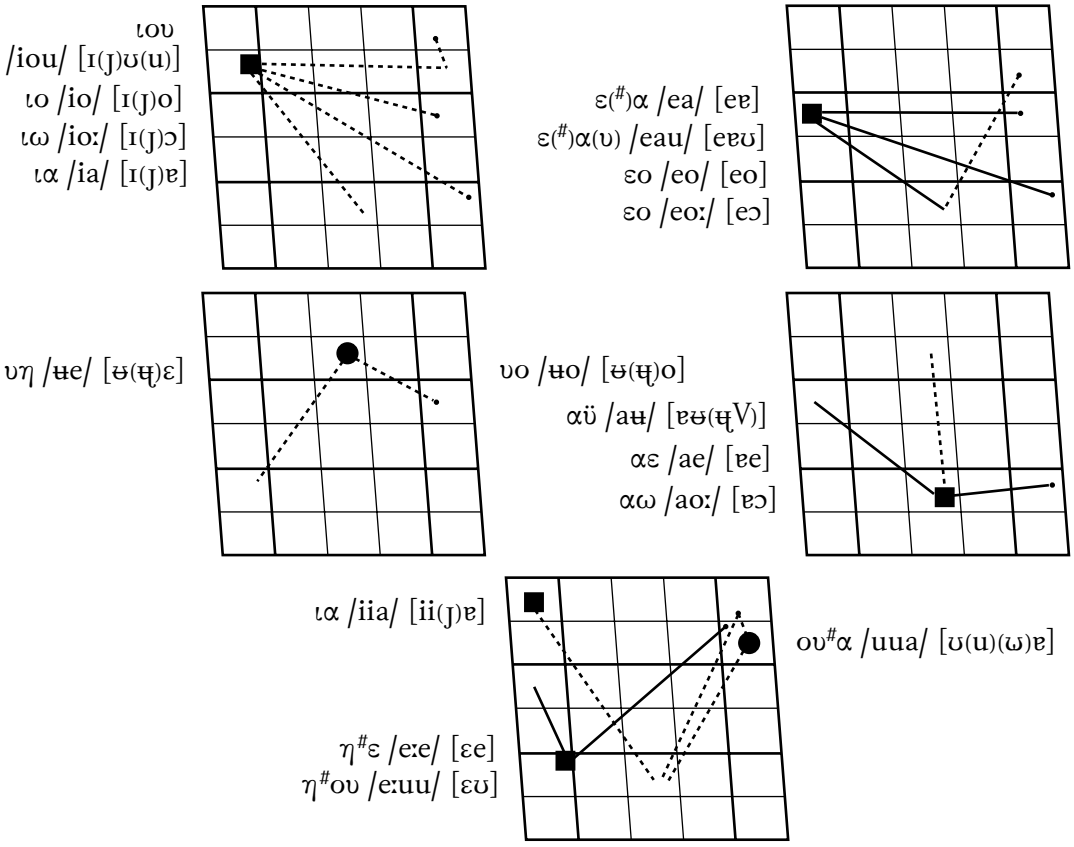


fig 3.7. Ancient Greek: further 'unofficial' diphthongs & triphthongs.



In fact, different people in different periods (within the 5-4th c.) might certainly have anticipated that change, through stages like those illustrated here.

The first vocogram of *fig* 3.6 also helps to show the difference between the existing 'short' diphthongs ει, αι, οι /ei, ai, oi/ [eɪ, ɐɪ, oɪ] (given in the first vocogram of *fig* 3.5).

Let us notice that the second vocogram (in *fig* 3.6) shows an 'intermediate' situation possibly used by some different speakers (or by the same ones, with oscillating usages), *ie* the very likely sociophonic stage of narrowed ('long') diphthongs, [ɛe, aɜ, ɔə]. Their second elements are simply pointing to /i/ [ɪ], without actually reaching it. Instead, the third vocogram shows the three monophthongized 'long' vowels.

3.12. In addition to more or less 'official' diphtongs (and triphthongs), in connected texts, further such vowel clusters occur, certain of them not rarely at all. *fig* 3.7 shows some of the most frequent ones.

Grammatical and metrical 'solutions'

3.13. Passing to some requirements (very queer, indeed) that *grammar* and *verse* demand, in order to 'satisfy' stress and mainly metrical patterns (although completely unfamiliar in comparison with actual true language), let us consider, now, some of the forced deviations from normality.

Of course, they were accurately classified and named, otherwise –certainly– they could not be imposed, as if they were actually necessary.

So, when true language did not match with *metrical structures* (real superstructures, indeed), *dieresis* was introduced, as when normal παίς /ˈpais/ [ˈpɐɪs], had to be deformed into πάϊς (which could be passed off as a legitimate disyllabic word, arbirarily changing into [ˈpɐ.ɹɪs], by doing violence to actual language).

On the contrary, when there were too many 'syllables', while just one could be accepted, *synizesis* had to be invented, as when μὴ οὐ /ˈmeːuu/ [ˈmɛɛʊ, ˌmɛʊ], had to be made to 'seem' to be monosyllabic (as if it was not already such, in spite of its length).

Let us end with *syneresis*, when words like θεοί /theˈoi/ [ˌtheˈoɪ], or πόλεως /ˈpoleos/ [ˈpoˌleɔs] had to be passed off as monosyllabic or bisyllabic, respectively, having to introduce new consonantal semiapproximant taxophones, as in '[ˈthɹoɪ, ˈpoˌlɹɔs]', or θεός [ˌtheˈos] as '[ˈthɹos]' (and [ɻ, ɯ] for 'consonantalized' [a, o], α, o: [ɻɪ, ɯɪ], cf *fig* 3.8-9). Besides, we have μὴ οὐ /ˈmeːuu/ [ˈmɛɛ.u] becoming [ˌmɛʊ], when reduced to an unstressed monosyllable.

3.14. Of course, in Natural Phonetics, πόλεως [ˈpoˌleɔs] is already 'naturally' bisyllabic. As in the case of θεοί [ˌtheˈoɪ] (as a monosyllabified word, seen above), the -οι and -αι endings were sometimes forced to 'become short' (or, rather, to be considered as 'short') as grammars 'carefully' present. For instance, the -αι of the imperative and infinitive forms, τίμησαι and τιμῆσαι, had to be considered as ending with something 'monomoraic' like [ɻɪ], just seen, *ie* [ˈtiiˌmɛˌsɻɪ] and [ˌtiˌmɛɛˌsɻɪ]; while the optative form, τιμήσαι, 'remained normal', *ie* with a 'bimoraic' ending, [ˌtiˈmɛɛˌsɐɪ]. Similarly,

for ἄνθρωποι, *ie* [ˈɐɲ.thɾɔ.pɯɪ], as against ἀνθρώπου, *ie* [.ɐɲˈthɾɔɔ.pʊ].

Frankly, it must be said that, if those endings were really different, in the long history of grammatical Greek treatises, a way to show that fact would certainly have been devised (however crazy, as so many others).

fig 3.8. Semi-approximants: palatal, prevelar, and velo-labial.

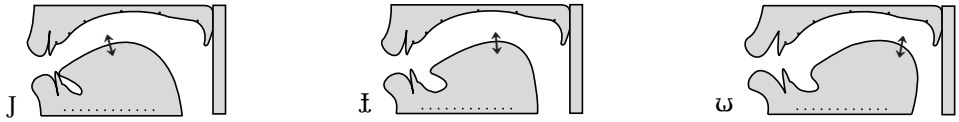
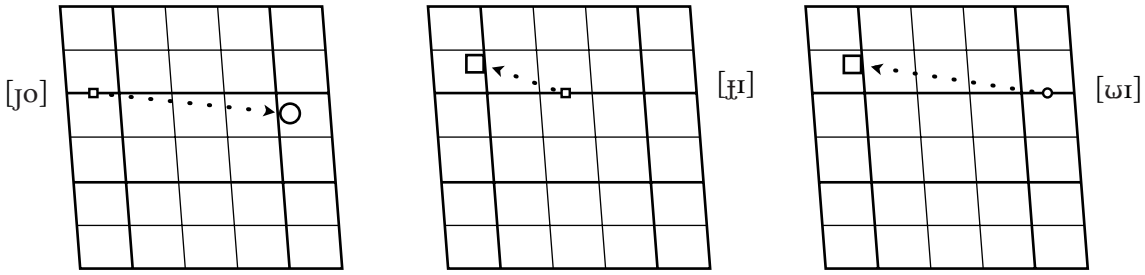


fig 3.9. The [CV] clusters using the semiapproximants shown in *fig* 3.8. They begin where the small markers are, to reach the larger markers, following the path indicated by the arrows.



3.15. However, it is true that, in singing verse with music, as a form of art in the ancient world, long vowels were certainly pronounced as bi-phonic diphthongs even when unstressed, [ii, εε, aa, ɔɔ, ~~ʉʉ~~], not as [i, ɛ, a, ɔ, ~~ʉ~~] (as in real spoken language, where they still remained different from their short counterparts, [ɪ, ɐ, ɐ, ʊ, ~~ʊ~~], thanks to their timbres).

True languages and 'artistic' languages are two different things, even today. It is sufficient to think about how unnaturally words are distorted in songs, to say nothing about opera.

Colloquial variants

3.16. Let us add some different realizations more typical of *colloquial* pronunciation, inferable from ancient authors, as shown in *fig* 3.10. It is no problem to think about some examples.

Let us add that the sequences of /(V)iV(V), (V)uV(V)/, [(V)ɪˈjV(V), (V)ʊˈwV(V)] and [(V)ɪɰV(V), (V)ʊɯV(V)], colloquially often avoided the insertion of [j, ɰ, w, ɯ], giving [(V)ɪˈV(V), (V)ʊˈV(V)] and [(V)ɪV(V), (V)ʊV(V)], as in: Μιλτιάδης [.mɪl.tɪˈɐ.dɛs], for [.mɪl-.tɪˈjɐ.dɛs], Πρίαμος '[ˈpɾɪɐ.mos]' for [ˈpɾɪ.ɰɐ.mos].

Besides, at least colloquially, in word-initial position, unstressed /i, ~~ʉ~~/ followed by a vowel, naturally tended to become consonantal, as in: ἰάπτω [.ɪˈjɐp.tɔ, ˈjɐp-], ἰαίνω [.ɪˈjɐɪ.nɔ, ˈjɐɪ-], ἰατρός /iːaː-/ [.i.ɰaˈtɾos, .ja-, .ɰa-], ὑέτιος [.hɯˈɥe.tɪ.ɰos, ˈhɥe.tɪos, -.tɰos, .hʏ-ˈɥe-, ˈhɥe-], ὑετός [.hɯ.ɥeˈtos, .hɥe-, .hʏ.ɥe-, .hɥe-], υἱός [.hʊɾˈjos, .hɥɾˈjos, .hɥɾˈos, ˈhɥɰos, .hʏɪ-, .hɥɪ-, ˈhɥɰos].

In addition, in colloquial *fast* speech, besides vowel weakening (as already shown in §3.3-4), also consonants had weaker realizations, anticipating later changes, such as geminate simplification and /ph, th, kh/ reduction to their constrictive counterparts, by fusion: [ɸ, θ, x].

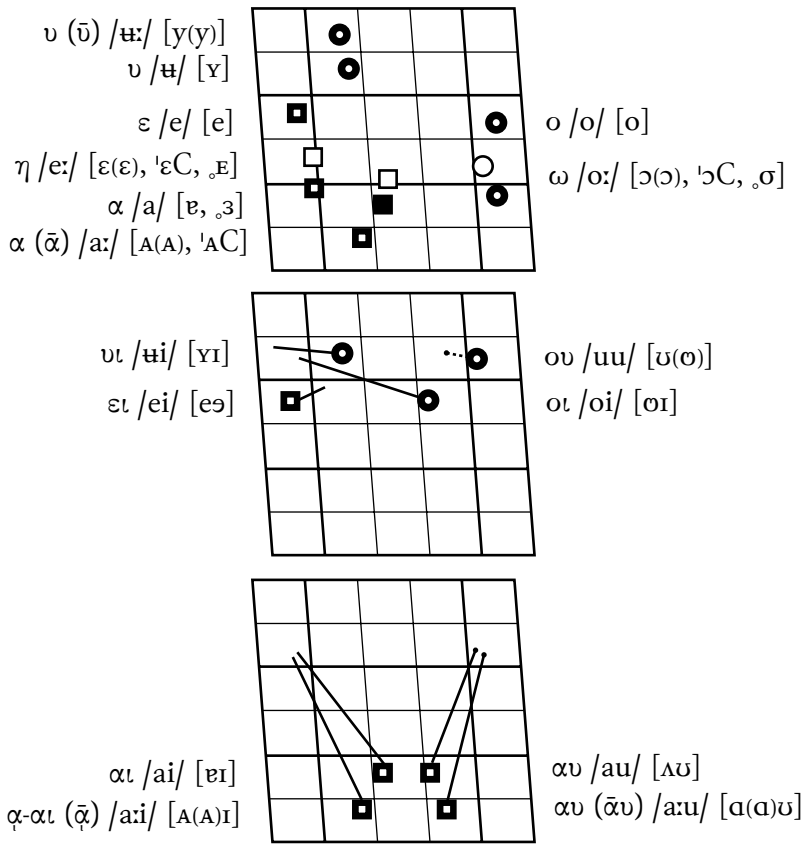
3.17. On the contrary, in *poetic* speech, even 'unofficial' diphthongs, with different vowels, were forced to become two actual syllables, trying to produce artificial 'hiatuses' (/VV/ [VV]), by introducing 'necessary' semi-approximants of different timbres (which 'poetically' debased the language), also keeping unstressed long vowels bimoraic.

As, for instance, in: 'Ρέα '[ˈɾe.ɹaa, ˈɾe.ɻaa]', for [ˈɾea], Μελέαγρος '[.meˈle.ɹɐ.gɾos]', or even '[.meˈle.ɻɐ.gɾos]', for [.meˈleɐ.gɾos], Μενέλεως '[.meˈne.le.ɹɔɔs]', or even '[.meˈne.le.ɷɔɔs]', for [.meˈne.leɔs], Πασιφάη '[..paa.sɪˈphɐ.ɹɛɛ]', or even '[..paa.sɪˈphɐ.ɻɛɛ]' for [..pa.sɪˈphɐɛ], &c.

Let us also notice, instead, that colloquially /eː, aː, oː/ were shortened even in stressed checked syllables, again producing a more fluent and natural language, as in: ἥξα /ˈeːksa/ [ˈɛɛk̚-sɐ, ˈɛk̚-sɐ], ὥστερ /ˈoːsteɾ/ [ˈɔɔs.teɾ, ˈɔs.teɾ].

3.18. Of course, different speakers surely had partially different realizations of particular phonic sequences, some anticipating successive changes more than others. Thus, for instance, vocalic clusters like /ViV, VɨV, VuV/ were rather systemat-

fig 3.10. Main colloquial differences.



ically and constantly [VɪJV, V~~ʉ~~ɻV, VʊɯV], more then /iV, ~~ʉ~~V, uuV/, which certainly were also [ɪV, ~~ʉ~~V, ʊV], in addition to [ɪJV, ~~ʉ~~ɻV, ʊɯV]. Several examples can be found under § 3.4.

It is interesting to observe the intermediate case, between these two structures, provided by /eiV/, with either [eɪJV] or [eɪV], since /ei/, for many speakers, instead of [eɪ], was already [eɘ] (as shown in the second vocogram of *fig* 3.10, for a finer reality than in an *official IPA* transcription), before becoming exactly [ee].

Both ancient and contemporary scholars describe it as '[eː]', even if it did not actually reach a form like that: Δαρεῖος /daːˌɾeiʊs/ [ˌdaˌɾeɪˌJos], colloquially [ˌdaˌɾeɘˌJos], not yet '[ˌdaˌɾeeˌJos, ˌdaˌɾeeos]', with '/eː/' becoming different from classical /eː/ [εε].

However, the variation indicated above was certainly due to the fact of a possible difference in interpreting and putting its realizations, at the same time, into both classes: /eiV/, and /eːV/.

4.
Consonants

4.1. Readers are invited to take good account of what has been said under § 1.7-25. The consonant system of ancient Greek is shown in the table of *fig* 4.0, including all necessary taxophones for 'neutral' (and colloquial) classical pronunciation.

fig 4.0. Ancient Greek consonants.

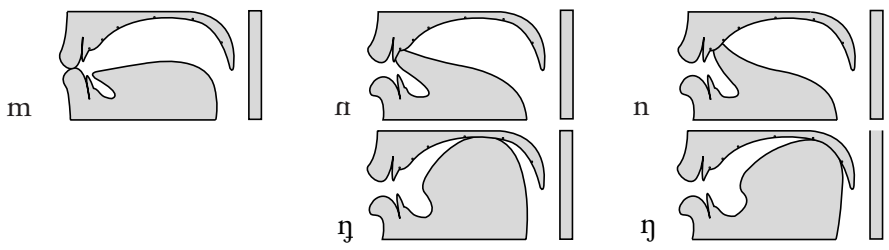
	bilabial	dental	alveolar	palatal	postpalato-labial	prevelar	prevelo-labial	velar	velo-labial	laryngeal
nasal	m	[ɑ]	n			[ŋ]		[ŋ]		
stop	p b	t d				[k g]		k g		
constrictive	[φ]	[θ] s z				[x]		[x]		
approximant				[j]	[ɥ]		[ɧ]		[w]	h [ɦ]
semi-approximant				[ɹ]	[ʯ]	[ɻ]	[ɬ]		[ɷ]	[ɦ]
tap			ɾ ɾ							
trill			[r r]							
lateral		[l]	l							

Nasals

4.2. There are two nasal phonemes, μ, ν /m, n/ [m, n]; of these, /n/ has four taxophones, [m, ɑ, ŋ, ŋ]. Examples: μαιμάω /maiˈmaoː/ [.mɐɪˈmɐɔ], ἄμμος /ˈammos/ [ˈɐm.mos], ἄμπελος /ˈampelos/ [ˈɐm.pe.los], νᾶνος /ˌnaːnos/ [ˌnaa.nos], ἰνίον /iːˈnion/ [.iˈnɪ.ɹon], ἀνδιχα /ˈan.di.kha/ [ˈɐɑ.dɪ.khɐ], κάνναβις /ˈkannabis/ [ˈkɐn.nɐ.bɪs], ἄγγελος /ˈangelos/ [ˈɐŋ.ge.los], πάγκαλος /ˈpankalos/ [ˈpɐŋ.kɐ.los], ἔγχος /ˈenkhos/ [ˈeŋ.khos], φάλαγξ /ˈphalanks/ [ˈphɐ.lɐŋks], γνῶσις /gˌnoːsis/ [gˌnɔɔ.sɪs], κνίζω /kˈnidzoː/ [kˈnɪd.zɔ].

Leu us also notice /gm/ [g.m, ŋ.m], as in: ἦγναι /ˌeːgmai/ [ˌɛɛg.mɐɪ, ˌɛɛŋ.mɐɪ].

fig 4.1. Ancient Greek consonants: nasals.



Stops (classically, but horribly, called 'mutes')

4.3. There are three diphonic couples, π, β, τ, δ, κ, γ /p, b; t, d; k, g/ [p, b; t, d; k, g, k, g] (of course, the prevelar taxophones, [k, g], occur before front vowels.

4.4. In addition, the voiceless elements occur in 'aspirated' clusters, represented with special letters, φ, θ, χ /ph, th, kh/ [ph, th, kh, kh], instead of something –somehow more 'modern' and scientific– like ⟨πʿ, τʿ, κʿ⟩ (or, better, combined ⟨p̔, t̔, k̔⟩).

'Aspiration' did not happen to be indicated with a special letter, like for /h/, as ancient ⟨ʜ, Ꮒ⟩, which could have been more useful, indeed, in place of the troublesome and inconvenient *rough breathing*, ⟨῾⟩.

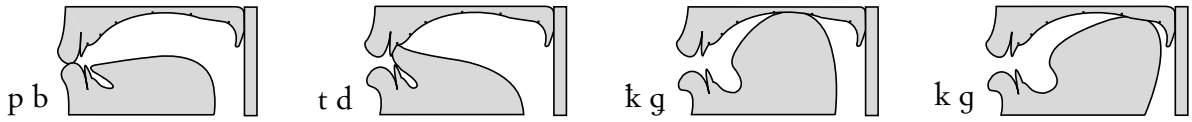
That 'invention' was awkwardly devised, after too many centuries (or, indeed, millenia), in order to add it on older written texts, without having to write them all again, starting from scratch (of course with no computer at all! – today: κομπιούτερ [kɔmˈbjuːtɛr], or ηλεκτρονικός υπολογιστής).

To 'complete' that peculiar operation, also a *smooth breathing*, ⟨᾽⟩, was introduced, to 'clearly' denote the absence of /h/, identifying where words began. The inevitable result was a very complex 'system', including three marks for the tonemes ⟨ʹ⟩, ⟨῀⟩, ⟨῁⟩, (or ⟨῍⟩, also combined in ⟨῎, ῏, ῍, ῝, ῞, ῟⟩!

Back to the (clear and obvious) clusters /ph, th, kh/, which have nothing to do with any mysterious divine entity. Here are some examples for all of them: παπαῖ! /ˌpaˌpai/ [ˌpɐˌpɐɪ], πάππας /ˈpappas/ [ˈpɐp.pɐs], πτώξ /pˈtoːks/ [pˈtɔɔks], πλέκω /ˈpleko:/ [ˈple.kɔ], φακός /phaˈkhos/ [.phɐˈkhos], διφθέρινος /diphˈtherinos/ [.dɪpˈthe.ɾɪ.nos], βαβαί! /ˌbaˈbai/ [ˌbɐˈbɐɪ], σάββατον /ˈsabbaton/ [ˈsɐb.bɐ.ton], βλάπτω /ˈblapto:/ [ˈblɐp.tɔ], τετράς /teˈtras/ [.teˈtɾɐs], τέττα /ˈtetta/ [ˈtet.tɐ].

And: θεός /theˈos/ [.theˈos], θλάω /ˈthlao:/ [ˈthlɐɔ], διφθέρα /diphˈtheɾa:/ [.dɪpˈthe.ɾa], διότι /diˈoti/ [.diˈjo.tɪ], δμώς /dˈmo:s/ [dˈmɔɔs], κόκκος /ˈkokkos/ [ˈkok.kos], κλών /ˈklo:n/ [ˈklɔɔn], κνίζω /kˈnidzo:/ [kˈnɪd.zɔ], κτείς /kˈteis/ [kˈteɪs], χάζω /ˈkhadzo:/ [ˈkhɐd.zɔ], χνόος /khˈnoos/ [khˈnoos], χλόη /ˈkhloe:/ [ˈkhloɛ], γιγνώσκω /gigˈno:sko:/ [.gɪgˈnɔɔs.kɔ], γνώμη /gˈno:me:/ [gˈnɔɔ.mɛ], γλυκύς /glʉˈkʉs/ [.glʊˈkʊs], δόγμα /ˈdogma/ [ˈdog.mɐ].

fig 4.2. Ancient Greek consonants: stops.



Constrictives (or 'fricatives')

4.5. There are two constrictive phonemes: plain voiceless /s/ [s], with the taxophone [z], before the voiced stops, β, δ, γ /b, d, g/ [b, d, g, g]. Generally, the same is true also before (naturally voiced) sonants, μ, ν, ρ, λ /m, n, r, l/ [m, n, ɾ, l] (but it seemed that 'careful' speakers might try to use [s], instead).

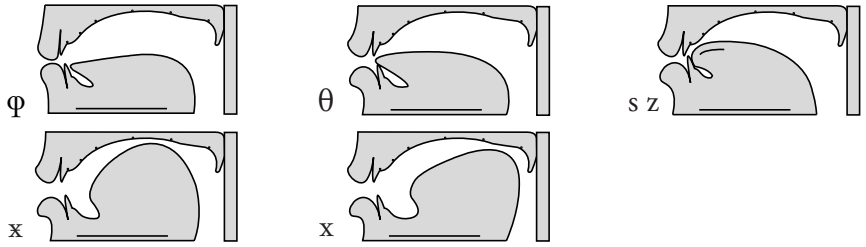
The second costrictive phoneme, /z/ [z], in neutral pronunciation, is realized as the cluster /dz/ [d-z] (not a stopstrictive [ʣ]), both in word-initial position and be-

tween vowels, [#d-zV, Vd-zV]. It can be considered as a voiced cluster, similar to the two voiceless ones, ψ, ξ /ps, ks/ [p-s, k-s].

Colloquially, we generally had [V(z)#zV, Vz-zV] (which was, afterwards, used in Koiné Greek, although as a simple consonant, as all others). As we have already said (in § 0, note 2), /z/ derived from former /zd/ [zd, zð]).

Examples: σύστασις /ˈsʉstasis/ [ˈsʉs.tɐ.sɪs], σφεῖς /s꜀pheis/ [s꜀pheɪs], πεσσός /pes-ˈsos/ [.pesˈsos], ξενικός /kseniˈkos/ [k.se.nɪˈkos], ὄθριξ /ˈothrɪks/ [ˈo.thrɪɬks], ξενίζω /kseˈnidzoː/ [k.seˈnɪd.zɔ], ζεῦξις /d꜀zeuk.sis/ [d꜀zeʊk.sɪs].

fig 4.3. Ancient Greek consonants: constrictives.



4.6. We have to add three constrictive taxophones, almost corresponding to the pronunciation of modern Greek for φ, ϑ, χ, which are continuous contoids of the kind of [f, θ, x] (even if with more or less consistent differences between neutral, international, and mediatic accents of modern Greek, as described in our *Greek Pronunciation & Accents*).

The ancient Greek contoids are [φ, θ, x]. They were taxophones of the clusters /ph, th, kh/ [ph, th, ɬh, kh], *colloquially* occurring before other consonants, as in δίφθογγος [ˈdɪφ.thoŋ.gos], which careful speakers realized (or tried to realize) as [ˈdɪp.thoŋ.gos], or even [ˈdɪpʰ.thoŋ.gos] (with a semiapproximant [ʰ])!

Other examples, for the colloquial voiceless costrictive taxophones of /ph, th, kh/, [φ, θ, ɤ, x], appear in various parts of this book.

Approximants (or 'frictionless continuants')

4.7. There is just one approximant laryngeal phoneme, /h/ [h], which was practically considered as being a sort of an 'unwanted son', with no sign to represent it, until very late (and unsatisfactorily, indeed) in the history of the Greek language and its spelling (as we saw under § 4.3, dealing with peculiar 'aspirated' stops).

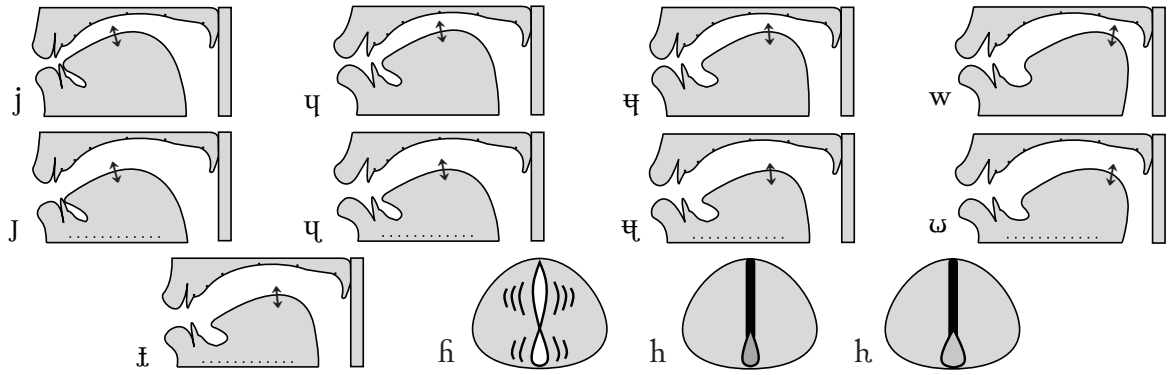
Thus, we have /h/ [h], which was so week in word-initial position after a vowel, to be realized as voiced, [ɦ]: /V#hV/ [V#ɦV]. That is why ancient scholars had difficulties in recognizing it adequately, as a true element of the phonemic system of Greek, since it also did not appear in word-internal position, except in the /ph, th, kh/ clusters, certainly not in '/VhV/' sequences.

Examples: ἱππόθεν /hipˈpothen/ [.hɪpˈpo.then], φθιτός /phthiˈtos/ [p.thɪˈtos], χάος /ˈkhaos/ [ˈkhaos].

In table 4.0, we can also find the palatal and velo-labial approximants [j, w], which occur in sequences of /(V)i, (V)u/ followed by a vowel, realized as [VɪˈjV,

VʊˈwV; VɪjV, VʊɯV]. We have already seen some examples, and others will be found below (including the approximants [j, ɥ, w] and semiapproximant [ɲ, ɬ, ɧ, ɯ], already introduced under § 3.9-10), [ɲ, ɬ, ɯ]. They had to be used, in addition to the real approximants, to 'solve' uncomfortable metrical situations, when there was an excess mora, which would upset the 'harmonious' dictates mostly for verse.

fig 4.4. Ancient Greek consonants: approximants & semiapproximants.



4.8. Thus, an exceeding vocalic mora was made to become an 'innocent' consonant, simply to balance the weight of the syllables present in a given line of verse.

We had to make πόλεως [ˈpo.leɔs] and θεοί [.theˈoɪ] 'lose' one mora, becoming [ˈthjoɪ, ˈpo.ljɔs]. The same for τίμησαι [ˈtii.mɛ.sɬɪ] and τιμῆσαι [.tiˌmɛɛ.sɬɪ], in oppositionn to τιμήσαι [.tiˈmɛɛ.sɐɪ], with a fully dimoraic final syllable. Similarly, ἄνθρωποι [ˈɐn.thɾɔ.pɯɪ], as against ἀνθρώπου [.ɐnˈthɾɔɔ.pʊ].

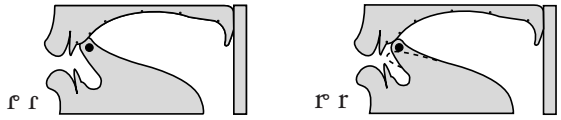
4.9. However, it is an undeniable fact that in (very) fast (and colloquial) speech, in addition to the timbre attenuation of the vowels, seen in *fig* 3.3-4, another spontaneous 'phenomenon' might surely occur. Arguably, in a more natural way than in literary texts, especially vocalic sequences like /iV, ʉV, uV/ [ɪV, ʊ̈V, ʊV], /eV, oV/ [eV, oV], /aV/ [ɐV], in unstressed syllables, more or less occasionally, could change into: [jV, ɥV, wV, ɲV, ɬV, ɧV, ɯV]. Also 'long' vowels were shortened in unstressed syllables.

Rhotics (or, unscientifically horrible: 'liquids')

4.10. There is just one alveolar voiced tap, ɾ, ɾ̥ /ɾ/ [ɾ], which occurs in opposition to its voiceless counterpart, ɾ̥ /ɾ̥/ [ɾ̥] (including the corresponding trills, which might occur for emphasis or, freely, in stressed syllables).

Examples: ἄψορρος /ˈapsoɾɾos/ [ˈɐp.soɾ.ɾos], ὕδωρ /ˈhʉdoːɾ/ [ˈhʊ̈.dɔɾ], ὕδρος /ˈhʉdɾos/ [ˈhʊ̈.dɾos], ῥήτωρ /ˈɾ̥eːtoːɾ/ [ˈɾ̥ɛɛ.tɔɾ].

fig 4.5. Ancient Greek consonants: rhotics.

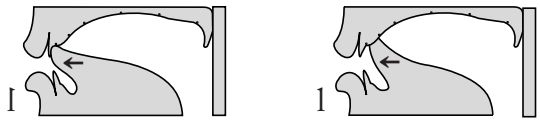


Laterals (or, again, horribly: 'liquids')

4.11. There is just one alveolar voiced lateral phoneme, λ /l/ [l], with the dental taxophone, [l̪], when followed by /t, d, s/.

Examples: λαλέω /laˈleoː/ [.lɐˈleɔ], ἄλλος /ˈallos/ [ˈɐl̪los], ἅλς /ˈhals/ [ˈhɐls], γλάγος /ˈglagos/ [ˈglɐ.gos].

fig 4.6. Ancient Greek consonants: laterals.



Additional views

4.12. Let us add some further figures, which show useful particulars for the identification and recognition of the consonants.

fig 4.7. Ancient Greek consonants: labiograms.

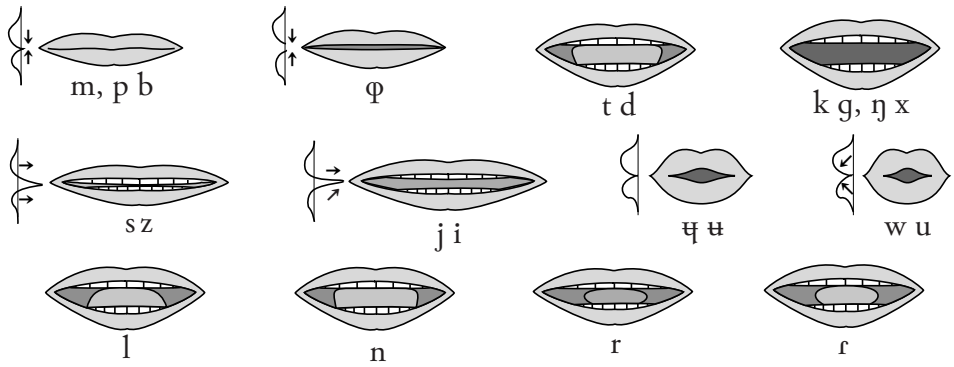


fig 4.8. Ancient Greek consonants: palatograms.

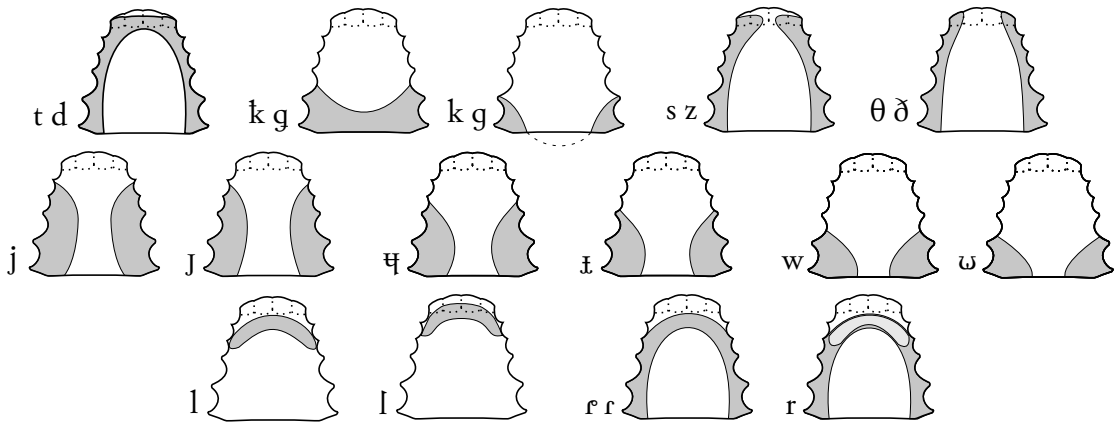


fig 4.9. Ancient Greek consonants: lingograms.

Final and initial clusters

4.13. In comparison with other languages, ancient Greek has very many *word-initial consonant clusters*, as we will see below (while English in particular, does not allow many clusters, although it has some non found in Greek, as, for instance: /sm, sn, sl, sj, sw, spl, spɹ, spj, stj, stɹ, sk, skɹ, skj/ &c, including /sɹ/, in loans).

On the contrary, in *word-final position* (while English may have, for instance, [mpsʧ], as in *glimpsed*, colloquially reduced to [msʧ]), in ancient Greek, only single consonants may occur: ς, ν, ρ /s, n, ɾ/, or double: ψ, ξ /ps, ks/, with three triple (phonic!) clusters: μψ, γξ, ρξ /mps, nks, ɾks/ (/mps/ is meant to show not just its possibility, but its non-impossibility).

For instance: ἅλς /ˈhals/ [ˈhɐls], σκνίψ [skˈnɪps], χρέμψ /ˈkhɾemps/ [ˈkhɾemps], σφήξ /sˈpheːks/ [sˈphɛɛk̟s], σφίγξ /sˈphiŋks/ [sˈphɪŋ̟ks], and σάρξ /ˈsaɾks/ [ˈsɐɾks]. In addition, we have: ἐκ /ek/ [ek̟, ɘk̟], οὐκ/οὐχ /uukʰ/ [ʊkʰ, ɷkʰ] (proclitics).

Other clusters are not tolerated in ancient Greek, in fact μέλας /ˈmelaːs/ [ˈmeˌlas] derives from μέλανς and χαρίεις /khaˈɾieis/ [ˌkhɐˈɾɪˌjeɪs] from χαρίεντς. A rare exception is the Mycenaean citadel name Τίρυνς [ˈtɪˌɾʉ̟ns, ˈtii-], which in proper classical Greek should be Τίρυς /ˈtiːɾʉ̟ːs/ [ˈtɪˌɾʉ̟s, ˈtii-].

Of course, in this book dedicated to real pronunciation, when we deal with consonant 'clusters', we certainly think about (and refer to) phonic matters, not to 'peculiar' ways of trying to represent them in writing (as ζ /dz/, ψ /ps/, ξ /ks/). See the first five cases.

However, in English the letter *x* is even worse (with more possibilities): *six* [ˈsɪk̟s], *xerox* [ˈzɪəɻɒks], *exist* [ɪgˈzɪsʧ], *luxury* [ˈlɐkʃəɻi, ˈlɐgʒəɻi], *prix* [ˈphɻɪi].

4.14. So, *word-initially*, we may find:

ψ /ps/ [p-s]: ψάρ [pˈsaaɾ] – ξ /ks/ [k-s]: ξέω [k̟ˈseɔ] – φ /ph/ [ph]: φήρ [ˈphɛɛɾ] – ϑ /th/ [th]: ϑήν [ˈthɛɛn] – χ /kh/ [kh]: χρώς [ˈkhɾɔɔs] – μν /mn/ [m-n]: μνᾶ [mˌnaa],

σμ /zm/ [z-m]: σμάω [zˈmɐɔ] – σβ /zb/ [z-b]: σβέσις [zˈbeˌsɪs] – σπ /sp/ [s-p]: σπάω [sˈpɐɔ] – σπλ /spl/ [s-pl]: σπλήν [sˈplɛɛn] – σφ /sph/ [sˈph]: σφήξ [sˈphɛɛk̟s] – σφρ /sphɾ/ [s-phɾ]: σφραγίς [sˌphɾaˈgiis],

στ /st/ [s-t]: σταῖς [sˌtɐɪs] – στρ /stɾ/ [s-tɾ]: στραῖς [sˌtɾɐɪs] – στλ /stl/ [s-tl]: στλεγγίς [sˌtleŋ̟ˈgɪs] – σϑ /sth/ [s-th]: σϑένος [sˈtheˌnos],

σκ /sk/ [s-k]: σκώψ [sˈkɔps] – σκν /skn/ [sk-n]: σκνίψ [skˈnɪps] – σκλ /skl/ [s-kl]: σκλῆμα [sˈklɛɛˌmɐ] – σχ /skhɾ/ [s-khɾ]: σχῆμα [sˌkhɛɛˌmɐ],

βδ /bd/ [b-d]: βδέλλα [bˈdelˌlɐ] – βρ /bɾ/ [bɾ]: βρέφος [ˈbɾeˌphos] – βλ /bl/ [bl]: βλέμμα [ˈblemˌmɐ],

πν /pn/ [p-n]: πνέω [pˈneɔ] – πτ /pt/ [p-t]: πτύξ [pˈtʉ̟k̟s] – πρ /pɾ/ [pɾ]: πρόξ [ˈpɾoks] – πλ /pl/ [pl]: πλέω [ˈpleɔ],

φϑ /phth/ [ph-th]: φϑείρ [pʰtheɪɾ] /phʰth-/ – φρ /phɾ/ [phɾ]: φρήν [ˈphɾɛɛn] – φλ /phl/ [phl]: φλόξ [ˈploks],

δμ /dm/ [d-m]: δμώς [dˈmɔɔs] – δν /dn/ [d-n]: δνόφος [dˈno.phos] – δρ /dɾ/ [dɾ]: δράω [ˈdɾɐɔ],

τμ /tm/ [t-m]: τμητός [t.mɛˈtos] – τρ /tɾ/ [tɾ]: τρίς [ˈtɾɪs] – τλ /tl/ [tl]: τλάω [ˈtlɐɔ],

ϑν /thn/ [th-n]: ϑνητός [th.nɛˈtos] – ϑρ /thɾ/ [thɾ]: ϑραύω [ˈthɾɐu̯.ɯɔ] – ϑλ /thl/ [thl]: ϑλάω [ˈthlɐɔ],

γν /gn/ [g-n]: γνῶσις [gˌnɔɔ.sɪs] – γρ /gɾ/ [gɾ]: γραφή [.gɾɐˈphɛɛ] – γλ /gl/ [gl]: γλήνη [ˈglɛɛ.nɛ],

κμ /km/ [k-m]: κμέλεϑρον [kˈme.le.thɾon] – κν /kn/ [k-n]: κνίζω [kˈnɪd.zɔ] – κρ /kɾ/ [kɾ]: κράσις [ˈkɾaa.sɪs] – κλ /kl/ [kl]: κλέος [ˈkleos],

χν /khn/ [khɾ]: χνόος [kˈnoos] (not '[kˈno.os]') – χρ /khɾ/ [khɾ]: χρώς [ˈkhɾɔɔs] – χλ /khl/ [khl]: χλόη [ˈkhloɛ],

4.15. Notice that σδ /zd/ [z-d] does not occur (except in Aeolic, for Attic ζ /dz/ [d-z], showing an older possibility, dear to those who still suggest ζ /zd/ [z-d], for classical Greek), as in: σδεύγλα /zˈdeu̯-gla/ for Attic ζεύγλη /dˈzeu̯-glɛ/ [dˈzeu̯.glɛ].

4.16. None of the following clusters are found, word-initially:

νC /nC/ [n-C] – ρC /ɾC/ [ɾ-C] – λC /lC/ [l-C] – σν /zn/ [z-n] – σλ /zl/ [z-l] – σρ /zɾ/ [z-ɾ] – σγ /zg/ [z-g] – σκρ /skɾ/ [s-kɾ] – σχρ /skɾ/ [s-khɾ] – τν /tn/ [t-n] – τπ /tp/ [t-p] – τκ /tk/ [t-k] – γτ /gt/ [g-t] – γϑ /gth/ [g-th] – κϑ /kth/ [k-th] – κδ /kd/ [k-d] – χτ /kht/ [kh-t] – χδ /khd/ [kh-d].

4.17. We must add that a language like ancient Greek certainly *syllabified* its words in a more natural way than the verse 'rules' would make us believe, including in word formation.

Thus: πόνος [ˈpo.nos], τιμάω [.tiˈmɐɔ], ἀπ' ἐμοῦ [.ɐ.peˌmʊu], ἀγγέλλω [.ɐŋˈgel.lɔ], πένϑος [ˈpeɲ.thos], πότμος [ˈpot.mos], ἀκτίς [.ɐkˈtɪs], πέφασμαι [ˈpe.phɐz.mɐɪ], βλάπτω [ˈblɐp.tɔ], δάκνω [ˈdɐk.nɔ], μιμνέσκω [.mɪmˈnes.kɔ], ἄρκτος [ˈɐɾk.tos], Βάκχος [ˈbɐk.khos], Σαπφώ [.sɐpˈphɔɔ], συνέρχομαι [.sʊˈneɾ.kho.mɐɪ], ἐξετάζω [.ɐ̀k.seˈtɐd.zɔ], ἐπράχϑη [.eˈpɾɐk.thɛ, .eˈpɾɐx.thɛ], ἐϑρέψασϑε [.ethˈɾep.sɐs.the], γέγραφϑε [ˈge.gɾɐp-.the, ˈge.gɾɐφ.the], τεϑνέξω [.tethˈnek.sɔ, .teθ-], ἐσϑλός [.esˈthlos].

5.
Structures

Stress and tonemes

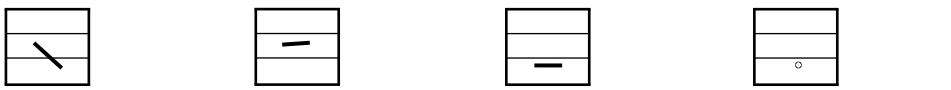
5.6. Usually, common grammars show and explain (completely, but even boringly) the different kinds of accents, actually *tonemes* combined with intensive stress (although absurdly and unadvisedly they seem to imply that intensity is not present). However, our chief aim is to accurately describe what the *tonetic* situation really is.

Happily, in modern editions of ancient-Greek texts, the spelling used clearly shows what we have to know. Thus, we simply transfer to grammars the task of boring people who want to acquire (or have already acquired) how to use the written tonemes, when learning to actually practice the language, instead of merely reading and pronouncing it accurately. To both kind of people we will give what grammars do not succeed in providing satisfactorily enough (while they present all the peculiar changes that words are subject to).

So, our examples will just show the nature and position of the graphic accents, without dilating on that subject, but simply providing useful transcriptions, which have to be examined very carefully. In fact, there are several 'laws', which add 'explications', in addition to those for contraction, shortening, lengthening, crasis, elision, &c.

But (considereing § 2.8 and *fig* 2.1-2), first let us carefully analize *fig* 5.1, which shows the three marked tonemes, that occur in stressed syllables (⟨ᾶ⟩ /ˌVV/ [ˌVV], ⟨ά⟩ /ˈVV/ [ˈV(V)], ⟨ὰ⟩ /ˌVV/ [ˌV(V)], and the unmarked toneme, that occurs in unstressed syllables. Thus, we have ⟨ˆ⟩ /ˌVV/ [ˌVV], ⟨ˊ⟩ /ˈVV/ [ˈV(V)], ⟨ˋ⟩ /ˌVV/ [ˌV(V)], ⟨⟩ /V(V)/ [.V(V)].

fig 5.1. Ancient Greek tonemes.



5.7. Examples: στόρνυμι /sˈtoɾnʉmi/ [sˈtoɾ.nʉ.mɪ], στορέννυμι /stoˈɾennʉmi/ [s.toˈɾen.nʉ.mɪ], γνόντες /gˈnontes/ [gˈnoɲ.tes], ναῦς /ˌnaus/ [ˌnɐʊs], λυθεῖμεν /lʉˌtheimen/ [.lʉˌteɪ.men], ἵππος /ˈhippos/ [ˈhɪp.pos], πέλλα /ˈpella/ [ˈpel.lɐ]; λεώς /leˈoːs/ [.leˈɔɔs], βασιλέα /basiˈlea/ [..bɐ.sɪˈleɐ]; μέλας /ˈmelaːs/ [ˈme.las], ἔφηνα /ˈepheːna/ [ˈe.phɛ.nɐ],

σελήνη /seˈleːneː/ [ˌseˈlɛɛ.nɛ], χαρίεις /khaˈrieis/ [ˌkhɐˈrɪ.ɟeɪs], ὀδοῦσι /oˌduusi/ [ˌoˌdʊu-.sɪ], ἔμεινα /ˈemeina/ [ˈe.meɪ.nɐ], σέλα /ˈselaː/ [ˈse.la], τέρα /ˈte(ː)ɾa/ [ˈte.ɾɐ, ˈtɛɛ.ɾɐ].

And: βεβᾶσι /beˌbaːsi/ [ˌbeˌbaa.sɪ], βασιλῆς /basiˌleːs/ [ˌbɐ.sɪˌlɛɛs], Περικλῆς /peɾi-ˌkleːs/ [ˌpe.ɾɪˌklɛɛs], δῶμεν /ˌdoːmen/ [ˌdɔɔ.men], νῶν /ˌnoːn/ [ˌnɔɔn], τίμα /ˈtimaː/ [ˈtɪ-.ma], τιμᾶτε /tiˌmaːte/ [ˌtɪˌmaa.te], τιμᾶν /tiˌmaːn/ [ˌtɪˌmaan], γένη /ˈgeneː/ [ˈge.nɛ], ᾖ /ˈeː/ [ˈɛɛ, ˌɛ, ˌɛ], λύῃ /ˈlʉeːi/ [ˈlʉɛɪ]; τιμῶμεν /tiˌmoːmen/ [ˌtɪˌmɔɔ.men], ᾄδίω /heːˈdioː/ [ˌhɛˈdɪ.ɟɔ], ὀρῶσιν /hoˌɾoːsin/ [hoˌɾɔɔ.sɪn].

More: φιλοῖς /phiˌlois/ [ˌphɪˌloɪs], φιλῶ /phiˌloː/ [ˌphɪˌlɔɔ], ᾤρω /ˈheːɾoː/ [ˈhɛɛ.ɾɔ], αἰδῶ /aiˌdoː/ [ɐɪˌdɔɔ], ῥιγώτε /ɾiˈgoːte/ [ˌɾɪˈgɔɔ.te]; τιμᾷς /tiˌmaːis/ [ˌtɪˌmaaɪs], τιμῶσι /tiˌmoːsi/ [ˌtɪˌmɔɔ.sɪ], φιλῇς /phiˌleːis/ [ˌphɪˌlɛɛɪs], λύῃ /ˈlʉeːi/ [ˈlʉɛɪ], ζῴην /dˈzoːieːn/ [dˈzɔɔɪ.ɟɛn], ῥιγῷς /ɾiˌgoːis/ [ˌɾɪˌgɔɔɪs]; φιλεῖ /phiˌlei/ [ˌphɪˌleɪ], εὖνοι /ˌeunoi/ [ˌeʊ-.noɪ]; φανός /phaːˈnos/ [phaˈnos].

5.8. *Crasis* examples: χοἰ /khoi/ [ˌkhoɪ] or χᾠ /khoːi/ [ˌkhɔɪ] (from καί οἱ /ˈkaihoi/ [ˌkɐɪ.ɦoɪ, ˌkɐɪ.ɟoɪ]), τἀγαθά /taːgaˈtha/ [ˌta.gɐˈthɐ], οὑμός /huuˈmos/ [ˌhʊˈmos], ταὐτό /taːuˈto/ [ˌtaʊˈto], χἠμεῖς /kheːˌmeis/ [ˌkhɛˌmeɪs], ϑᾐμέρᾳ /theːiˈmeɾaːi/ [ˌthɛɪˈme.ɾaɪ].

Elision examples: ἐπ’ ἐκείνῳ /epeˈkeinoːi/ [ˌe.peˈkeɪ.nɔɪ], ἀλλ’ αὐτοί /allauˈtoi/ [ˌɐl-.lɐʊˈtoɪ], ἀπ’ ἡμῶν /apeːˌmoːn/ [ˌɐ.pɛˌmɔɔn], βούλομ’ ἐγώ /ˈbuulo meˈgoː/ [ˌbu.lo.me-ˈgɔɔ], μ’ ἔϑελεν /ˈmethelen/ [ˈme.the.len]; ἐφ’ ἵππου /eˈphippuu/ [ˌeˈphɪp.pʊ], ἀφ’ ὧν /aˌphoːn/ [ˌɐˌphɔɔn], μεϑ’ ὑμῶν /methʉːˌmoːn/ [ˌme.thʉˌmɔɔn], νύχϑ’ ὅλην /ˈnʉkh ˈtholeːn/ [ˌnʉkˈtho.lɛn, ˈnʉk ˈtho.lɛn], τίφϑ’ οὕτως; /ˌtiphˈthuutoːs/ [ˌtɪpˈthʊu.tɔs]; ᾖ ’γώ /eːˈgoː/ [ˌɛˈgɔɔ], μή ’σϑιε! /ˌmeːsthie/ [ˌmɛɛs.thɪ.ɟe], ποῦ ’στι; /ˌpuusti/ [ˌpʊus.tɪ].

5.9. Grammars teach the following fact, but it is important to explain it adequately: any word with an acute accent on its last syllable, necessarily, change that accent into the grave one, if the word is directly followed, without a pause, by a stressed word.

Examples: ἔργον κακόν /ˈeɾgon kaˈkon/ [ˈeɾ.goŋ .kaˈkon], κακὸν ἔργον /ka_ko ˈneɾ-gon/ [ˌkɐ..koˈneɾ.gon, ..kɐ.ko-], κακόν τι ἔργον /kaˈkonti ˈeɾgon/ [ˌkɐˈkoɲ.tɪ ˈeɾ.gon] (with no change, due to the enclitic τι).

More examples: πόλεμος /ˈpolemos/ [ˈpo.le.mos], πολέμου /poˈlemuu/ [ˌpoˈle.mʊ], πολεμέω /poleˈmeoː/ [ˌpo.leˈmeɔ], γάμος /ˈgamos/ [ˈgɐ.mos], γάμου /ˈgamuu/ [ˈgɐ-.mʊ], γαμέω /gaˈmeoː/ [ˌgɐˈmeɔ], φέρεσϑε /ˈpheɾesthe/ [ˈphe.ɾes.the], φερόμενος /phe-ˈɾomenos/ [ˌpheˈɾo.me.nos], φερομένη /pheɾoˈmeneː/ [ˌphe.ɾoˈme.nɛ], παύω /ˈpauoː/ [ˈpɐʊ.ɯɔ], παῦε! /ˌpaue/ [ˌˈpɐʊ.ɯe], παυέτω! /pauˈetoː/ [ˌˈpɐʊˈɯe.tɔ].

5.10. And: ἅμιλλαι /ˈhamillai/ [ˈhɐ.mɪl.lɐɪ], ψῆφοι /pˌseːphoi/ [pˌsɛɛ.phoɪ], λύομαι /ˈlʉːomai/ [ˈlʉʉ.ɻo.mɐɪ], λυϑῆναι /lʉˌtheːnai/ [ˌlʉˌthɛɛ.nɐɪ], χαμαί /khaˈmai/ [ˌkhɐ-ˈmɐɪ], δείξαι /ˈdeik-sai/ [ˈdeɪk.sɐɪ]. Let us observe that, metrically, except for the last example (an optative form), all the others are forced to end as: [ɪ̈, ɯ̈ɪ] (for just a single mora, [CV]) instead of [ɐɪ, oɪ], which, however, are certainly not hiatuses with two syllables, but just normal diphthongs of one (normal) syllable: [VV]).

Also: ἄνϑρωπος /ˈanthɾoːpos/ [ˈɐn.thɾɔ.pos], ἄνϑρωπον /ˈanthɾoːpon/ [ˈɐn.thɾɔ-.pon], ἄνϑρωποι /ˈanthɾoːpoi/ [ˈɐn.thɾɔ.poɪ], ἀνϑρώπους /anˈthɾoːpuus/ [ˌɐnˈthɾɔɔ.pʊs], ἀνϑρώποις /anˈthɾoːpois/ [ˌɐnˈthɾɔɔ.poɪs], ἀνϑρώπων /anˈthɾoːpoːn/ [ˌɐnˈthɾɔɔ.pɔn].

More: πατράσι /paˈtrasi/ [.pɐˈtɾɐ.sɪ], αἰόλος /aiˈolos/ [.ɐɪˈjo.los], ἀντίος /anˈtios/ [.ɐnˈtɪ.jos], ἐρρωμένος /errɔːˈmenos/ [..eɾ.ɾɔˈme.nos]; λέγωμεν /ˈlegoːmen/ [ˈle.gɔ-.mɛn], λελυμένος /lelʉˈmenos/ [..le.lʉˈme.nos], ἀριστερός /aɾisteˈɾos/ [.ɐ..ɾɪs.teˈɾos]; σωτῆρα /soːˌteːɾa/ [.sɔˌtɛɛ.ɾɐ], νῆες /ˌneːes/ [ˌnɛɛes], εἶμα /ˌeiˑma/ [ˌeɪ.mɐ]; ὥστε /ˈhoːs-te/ [ˈhɔɔs.te].

Further examples: ἥδε /ˈheˑde/ [ˈhɛɛ.de]; πολίτης /poˈliːteːs/ [.poˈlii.tɛs], πολῖται /poˌliːtai/ [.poˌlii.tɐɪ], κλώψ /ˈkloːps/ [ˈklɔɔps], κλῶπα /ˌkloːpa/ [ˌklɔɔ.pɐ], ἔγωγε /ˈe-goːge/ [ˈe.gɔ.ge], ὅμοιος /ˈhomoios/ [ˈho.moɪ.jos], ἕτοιμος /ˈhetoimos/ [ˈhe.toi.mos], ἔμοιγε /ˈemoige/ [ˈe.moɪ.ge], ἔρημος /ˈeɾeːmos/ [ˈe.ɾɛ.mos], ἄγροικος /ˈagɾoikos/ [ˈɐ-.gɾoɪ.kos], παντοῖος /panˌtoios/ [.pɐnˌtoɪ.jos], αἰδοῖος /aiˈdoios/ [.ɐɪˈdoɪ.jos]; ἐφίλεις /eˈphileis/ [.eˈphɪ.leɪs], ἐφιλεῖσθε /ephiˌleisthe/ [..e.phɪˌleɪs.the].

And: βασιλῆς /basiˌleːs/ [..bɐsɪˌlɛɛs], ὀστοῦν /osˌtuun/ [.osˌtʊun], ἐφιλούμεθα /e-phiˈluumetha/ [..e.phɪˈlʊu.me.thɐ], λεοντῶν /leonˌtoːn/ [.leoɲˌtɔɔn]; ἑστῶτες /hes-ˌtoːtes/ [.hesˌtɔɔ.tes]; ταὐτῷ /taːuˌtoːi/ [.tɐʊˌtɔɔɪ], κἀγαθός /kaːgaˈtos/ [..ka.gɐˈthos], ὤνθρωπε /ˈoːnthɾoːpe/ [ˈɔɔɲ.thɾɔ.pe], θἠμέρᾳ /theːˈmeɾaːi/ [.thɛˈme.ɾaɪ].

Or: θῶπλα /ˌthoːpla/ [ˌthɔɔ.plɐ], ἄνδρες /ˈhandɾes/ [ˈlɐn.dɾes], χὤτι /ˈkhoːti/ [ˈkhɔɔ.tɪ], τἄλλα or τἆλλα /ˈtaːlla, ˌtaːlla/ [ˈtaal.lɐ, ˌtaal.lɐ]; φοβέρ’ ἔλεξας /phoˈbe ˈɾe-leksas/ [.phoˌbeˈɾe.leƙ.sɐs, ˈpho.be ˈɾe-], πόλλ’ εἰπών /ˈpollei ˈpoːn/ [ˈpol.leɪ ˈpɔɔn], τὰ δείν’ ἐκεῖνα /taˈdei neˌkeina/ [.tɐˈdei .neˌkeɪ.nɐ].

5.11. Arguably, words are syllabified following the natural phonic way that we adopt in our transcriptions. For the graphic syllabi(fi)cation of Greek, things are the same, although some grammars, incredibly (and absurdly) suggest not to separate clusters that may also occur in word-initial position (which we saw under § 4.17).

Such grammars even intend to extend this absurdity to phonic matters, which is decidedly worse, indeed. Clusters of different or geminate consonants are regularly separated, while clusters with /Cɾ, Cl, Ch/ are kept together [Cɾ, Cl, Ch] (while those with /Cm, Cn/ are separated [C-m, C-n]).

Thus, we certainly have: τύπ-τω [ˈtʉp.tɔ], ἔβ-δο-μος [ˈheb.do.mos], ἐ-πράχ-θη [.e-ˈpɾɐk.thɛ] /-khtheː/, βε-βλῆσ-θαι [.beˌblɛɛs.thɐɪ]. However, *only* graphically, prefixes are usually separated: συν-εχής [..sʉ.neˈkhɛɛs], κατα-βάλλω [..ka.tɐˈbɐl.lɔ], ἀπ-ώμο-τος [.ɐˈpɔɔ.mo.tos] (but also ἀ-πώ-μο-τος), and: δύσ-βατος [ˈdʉz.bɐ.tos], ἐξ-άγω [eƙˈsɐgɔ].

Even in word-initial position, after a pause, our clusters behave the same way (of course without their first element becoming intense, or ‘syllabic’). In fact, we find: πνέω [pˈneɔ], but πλέω [ˈpleɔ]; besides, look carefully at: μετὰ πνοιῆς ἀνέμοιο [.me..tɐp.noɪˌjɛɛɪ .sɐˈne.moɪ.jo], ἐν Πυκνί [..em.pʉkˈnɪ].

5.12.1. Here are some examples showing different stress or toneme patterns, including their possible combinations, and other prosodic things.

Stress: νόμος /ˈnomos/ [ˈnomos], νομός /noˈmos/ [noˈmos], εἴμι /ˈeimi/ [ˈeɪ.mɪ], εἰμί /eiˈmi/ [.eɪˈmɪ], ἅψις /ˈhapsis/ [ˈhɐp.sɪs], ἀψίς /hapˈsis/ [.hɐpˈsɪs], κακίον /kaˈkion/ [.kɐˈkɪ.jon], κάκιον /ˈkakion/ [ˈkɐ.kɪ.jon].

Tonemes: φῶς /ˌphoːs/ [ˌphɔɔs], φώς /ˈphoːs/ [ˈphɔɔs]; ὦ /ˌhoː/ [ˌhɔɔ], ὤ /ˈhoː/ [ˈhɔɔ];

δοῦ /ˌduu/ [ˌdʊu], δού /ˈduu/ [ˈdʊu]; ῥά /ˈɾa/ [ˈɾɐ], ῥᾶ /ˌɾa/ [ˌɾɐ]; ἦτε /ˌeːte/ [ˌɛɛ.te], ἄτε /ˈeːte/ [ˈɛɛ.te]; οἶκοι /ˌoikoi/ [ˌoɪ.koɪ], οἴκοι /ˈoikoi/ [ˈoɪ.koɪ]; τεμῶν /teˌmoːn/ [.teˌmɔɔn], τεμών /teˈmoːn/ [.teˈmɔɔn]; λῦσαι /ˌlʉsai/ [ˌlʊ.sɐɪ], λύσαι /ˈlʉsai/ [ˈlʉ.sɐɪ].

Stress and tonemes: θένω /ˈtheno:/ [ˈthe.nɔ], θενῶ /theˌno:/ [.theˌnɔɔ]; φάνεν /ˈphanen/ [ˈphɐ.nen], φανέν /phaˈnen/ [.phɐˈnen]; ἄσω /ˈaso:/ [ˈɐ.sɔ], ἀσῶ /aˌso:/ [.ɐˌsɔɔ].

Let us add these examples, for /h/ and /C, CC/, too: ὀρός /oˈɾos/ [.oˈɾos], ὄρος /ˈoɾos/ [ˈo.ɾos], ὅρος /ˈhoɾos/ [ˈho.ɾos], ὀρρός /oɾˈɾos/ [oɾˈɾos], ὄρρος /ˈoɾɾos/ [ˈoɾɾos]; and one for /V, V:/: ἄν (particle) /ˈan/ [ˌɐn ˌ̥ɐn], ἄν (conjunction ἐάν) /ˈaːn/ [ˈaan].

5.12.2. It may also certainly be worth thinking (well) about the following examples, too: Ἀχαία /aˈkhaia:/ [.ɐˈkhɐɪ.ja], Ἀχαΐα /akhaːˈiaː/ [..ɐ.khaˈɪ.ja]. And: ἄνθρωπός τις /ˈanthɾɔˈpostis/ [ˌɐn.thɾɔˈpos.tɪs], ἄνθρωπός ἐστι /ˈanthɾɔˈposesti/ [ˌɐn.thɾɔˈpo.ses.tɪ], πῆμά τι /ˌpeːˈmati/ [.pɛˈmɐ.tɪ], πῆμά ἐστι /ˌpeːˈmaesti/ [.pɛˈmɐes.tɪ], μοί ἐστι /ˈmoiesti/ [ˈmoɪ.jes.tɪ], εἴ τινος /ˈeitinos/ [ˈeɪ.tɪ.nos], εἴς τινα /ˈeistina/ [ˈeɪs.tɪ.nɐ], ὡς οὐκ αἰσθανόμενος /hoːsuukaisthaˈnomenos/ [.hɔ..sʊ.kɐɪs.thɐˈno.me.nos], ὡς εἰς μάχην /hoːseisˈmakheːn/ [..hɔ.seɪzˈmɐ.khɛn], οὐκ ὡς ἐπὶ πολεμίους /uukhoːse_pipoleˈmiuus/ [..ʊ.khɔ.se..pɪ.po.leˈmɪ.jʊs].

Also notice: τίς τί/τι μοί φησιν /tistiˈmoipheːsin/ [..tɪs.tɪˈmoɪ.phe.sɪn], εἴ πέρ/περ τίς τί/τι μοί φησιν /eiperˈtisˈmoipheːsin/ [..eɪ.per..tɪs.tɪˈmoɪ.phe.sɪn], φοῖνιξ γε /ˌphoiniksge/ [ˌpoɪ.nɪƙs.ge]. And: πόλεώς τις /ˈpoleˈoːstis/ [ˌpo.leˈɔɔs.tɪs], πήχεώς τινος /ˌpeːkheˈoːstinos/ [ˌpɛ.ƙeˈɔɔs.tɪ.nos], κῆρυξ τις /ˌkeːɾʉkstis/ [ˌƙɛɛ.ɾʊks.tɪs], λαῖλαψ ἐστί /ˌlailapsesˈti/ [.ˌlɐɪ.lɐp.sesˈtɪ], αὖλαξ τινί /ˌaulaksˈtiˈni/ [.ɐʊ.lɐks.tɪˈnɪ] (not with τις, ἐστι, τινι).

5.12.3. To determine the place of the accent in Greek words (although we find it clearly written, by now), the *vowel* of the last syllable (*not* the last *syllable* itself) is determinant, including words like: ὑλήεις /hʉˈleːeis/ [.hʊˈlɛɛɛɪs], ἠελίοιο /eːeˈlioio/ [.ɛeˈlɪ.joɪ.joɪ] (Homer).

Thus, if the *last* vowel is *long* or a *diphthong*, we can have: either /ˈ, ˌ/ ⟨ˊ, ˆ⟩ on the last syllable, or /ˈ/ ⟨ˊ⟩ on the penultimate one.

If the last vowel is *short*, we can have: /ˈ/ ⟨ˊ⟩ on one of the last *three* syllables; but /ˌ/ ⟨ˆ⟩ on the penultimate syllable, if it has a long vowel or a diphthong.

Examples: τιμῆς /tiˌmeːs/ [.tɪˌmɛɛs], καλοῦ /kaˌluu/ [.kɐˌlʊu], ἀγαθῶς /agaˌthoːs/ [..ɐ.gɐˌthɔɔs]; τιμή /tiˈmeː/ [.tɪˈmɛɛ], ἀγαθώ /agaˈthoː/ [..ɐ.gɐˈthɔɔ]; καλός /kaˈlos/ [.kɐˈlos], ἀγαθός /agaˈthos/ [..ɐ.gɐˈthos]; ἀνθρώπων /anˈthɾoːpoːn/ [.ɐnˈthɾɔɔ.pɔn], ἀγγέλλω /anˈgeloː/ [.ɐŋˈgel.lɔ], τόνου /ˈtonuu/ [ˈto.nʊ]; ἀνδροπόνος /andɾoˈponos/ [..ɐn.dɾoˈpo.nos], τόνος /ˈtonos/ [ˈto.nos]; πῆμα /ˌpeːma/ [ˌpɛɛ.mɐ], γυμνῆτες /gʉmˌneːtes/ [.gʊmˌnɛɛ.tes], κατῶρυξ /kaˌtoːɾʉks/ [.kɐˌtɔɔ.ɾʊks]; ἄνθρωπος /ˈanthɾoːpos/ [ˈɐn.thɾɔ.pos], ἄγγελλος /ˈangelos/ [ˈɐŋ.ge.los].

Clitics

5.13. Clitics are short and unstressed functional words (*gammemes*) written with no saccent, and are pronounced together with the stressed words (*lexemes*).

The following are PROCLITICS. *Articles*: ὁ [ˌho, ˌɦo], ἡ [ˌhɛ, ˌɦɛ], οἱ [ˌhoɪ, ˌɦoɪ], αἱ [ˌhɐɪ, ˌɦɐɪ]; *prepositions*: ἐκ or ἐξ [ˌeƙ, ˌeƙs], ἐν [ˌen, ˌeɲ, ˌem, ˌeŋ] (by assimilation to a following consonant), εἰς [ˌeɪs, ˌeɪz], ἐς [ˌes, ˌez], ὡς [ˌhɔs, ˌɦ-, -z]; *conjunctions*: εἰ [ˌeɪ], ὡς [ˌhɔs, ˌɦ-, -z]; *negatives*: οὐ, οὐκ, οὐχ [ˌʊ, ˌʊk, ˌʊkh].

Arguably, even the other grammemes, although written with an accent, are proclitics: *articles*, *prepositions* (except ἀμφί, ἀντί [ˌɐmˈphɪ, ˌɐɲˈthɪ]), *conjunctions* (as ἀλλά [ˌɐlˌlɐ], ἐπεί [ˌeˌpeɪ], ἤ [ˌɛ], καί [ˌkɐɪ], οὐδέ [ˌʊˌde], μηδέ [ˌmɛˌde] (including others belonging to the epic language); *negation* μή [ˌmɛ].

Proclitics do not modify the stress pattern of the words that follow them. When they are followed by enclitics, their stress remains: εἴ τις [ˈeɪˌtɪs], εἴς σε [ˈeɪsˌse], ὥς τινες [ˈhɔɔsˌˌtɪˌnes], λέγεις ἦ οὔ; [ˌɻˈleˌgeɪ ˌsɛˈʊu]. The negative οὐ is stressed at the end of sentences, with its full meaning: πῶς δ' οὔ; [ˌpɔzˈdʊu]. We have οὐκ ἔστιν [ˌʊˈkesˌtɪn] (not 'οὔκ ἐστιν [ˈʊuˌƙesˌtɪn]').

5.14. The following are ENCLITICS. *Personal pronouns*: με [ˌme], σε [ˌse], έ [ˌhe, ˌɦe], μου [ˌmʊ], σου [ˌsʊ], οὑ [ˌʊ], μοι [ˌmoɪ], σοι [ˌsoi], οἱ [ˌhoɪ, ˌɦoɪ], σφας [sˌphɐs], σφιν [sˌphɪn], σφισι [sˌˌphɪˌsɪ]; the bisyllabic forms of the *indefinite pronoun* τις, τι [ˌtɪs, ˌtɪ] (with -νε(ς), -να(ς), -νος, -νοιν, -νων, -νι, -σι, and possible secondary stress depending on contiguous syllables for alternation).

Also: *bisyllabic forms* (with no accent) of the present indicative of εἰμί [ˌeɪˈmɪ], and φημί [ˌphɛˈmɪ] (except the 2nd person εἶ [ˈeɪ, ˌeɪ], φῄς [ˈphɛɛs, ˌphɛs]); the following *indefinite adverbs*: που [ˌpʊ], πῃ [ˌpɛɪ], ποι [ˌpoɪ], πω [ˌpɔ], πως [ˌpɔs], ποτε [ˌˌpoˌte], ποθεν [ˌˌpoˌthen]; the *particles*: γε [ˌge], τε [ˌte], νυν or νυ [ˌnʉ(n)], περ [ˌpeɾ], ῥα [ˌɾɐ], τοι [ˌtoɪ]. Also the *suffix* -δε [ˌde].

5.15. Notice that ἐστί [ˌesˈtɪ] becomes ἔστι [ˈesˌtɪ], when it is at the beginning of a sentence, or when it means ἔξεστι [ˈeƙˌsesˌtɪ] ('it can/may be done'), or when it is preceded by καί [ˌkɐɪ], μεν [ˌmen], οὐ/οὐκ/οὐχ [ˌʊ, ˌʊk, ˌʊkh], εἰ [ˌeɪ], ὡς [ˌhɔs], ὅτε [ˌˌhoˌte, ˌɦo-], ἀλλά/ἀλλ' [ˌɐlˌlɐ, ˌɐll-], ταῦτα/ταῦτ' [ˌtɐʊˌtɐ, ˌtɐʊt-], τοῦτο/τοῦτ' [ˌtʊˌtɐ].

After words stressed on their last syllable, all enclitics have no stress (nor accent): θεός τις [ˌtheˈosˌtɪs], θεός φησι [ˌtheˈosˌphɛˌsɪ], θεῶν τις [ˌtheˌɔɔɲˌtɪs], θεοί τινες [ˌtheˈoɪˌtɪˌnes], θεῶν τινες [ˌtheˌɔɔɲˌtɪˌnes], ἀγαπῶ σε [ˌˌɐˌgɐˌpɔɔˌse], κακῶν τινων [ˌkɐˌˌkɔɔɲˌtɪˌnɔn]. See also: οὔ φησι [ˈʊuˌphɛˌsɪ].

We also have: λόγος τις [ˈloˌgosˌtɪs], εἴ τις [ˈeɪˌtɪs], ἄνθρωπός τις [ˌɐɲˌthɾɔˈposˌtɪs], δῆμός τις [ˌdɛˈmosˌtɪs], εἰσίν τινες [ˌeɪˈsɪɲˌtɪˌnes], ἥκουσά τινων [ˌɛˌkuˈsɐˌtɪˌnɔn], δῆμόι τινες [ˌdɛˈmoɪˌtɪˌnes].

5.16. The following cases, which are described as stressed on the 'penultimate syllable', but (colloquially) are actually stressed on their *last syllable* with a diphthong ([-ɪˌjɐs, -ɪɐs]) or a triphthong ([-ɪˌjɐɪ, -ɪɐɪ]). The following are interesting, too: νεανίας τις /neaː-/ [ˌneaˈnɪˌjɐsˌtɪs], νεανίαι τινες [ˌneaˈnɪˌjɐɪˌˌtɪˌnes].

After a pause, or an elided preceding word, an enclitic has to use a stress (and accent): τινὲς λέγουσιν [ˌtɪˌnezˈleˌgʊˌsɪn], ἀλλ' εἰσὶ πολλοί [ˌˌɐlˌleɪˌsɪˌpolˈloɪ].

Let us also observe carefully the following cases: βάτραχός τις [ˌbɐˌtɾɐˈkhosˌtɪs],

βάτραχοί τινες [ˌbɐ.tɾɐˈkhoɪ.tɪ.ɲes], νῆσος τις [ˈnɛɛ.sos.tɪs], νῆσοί τινες [ˌnɛˈsoɪs.tɪ-.nes]; φίλος τις [ˈphɪ.los.tɪs], φίλου τινός [ˈphɪ.lʊ ·tɪˈnos]

The interrogatives τίς [ˈtɪs] and τί [ˈtɪ] (including τοῦ [ˌtʊu], τῷ [ˌtɔɔ], and their bisyllabic forms) are always stresseed and accented.

Intonation

5.17. Considering well § 2.9-15 and *fig* 2.3-4, let us examine carefully *fig* 5.2, which shows the tonetic differences for the four protunes, and (at the bottom) the four tunes. The protunes are modified as shown: the 'normal' one (/,/) is a little

fig 5.2. Ancient Greek protunes and tunes.

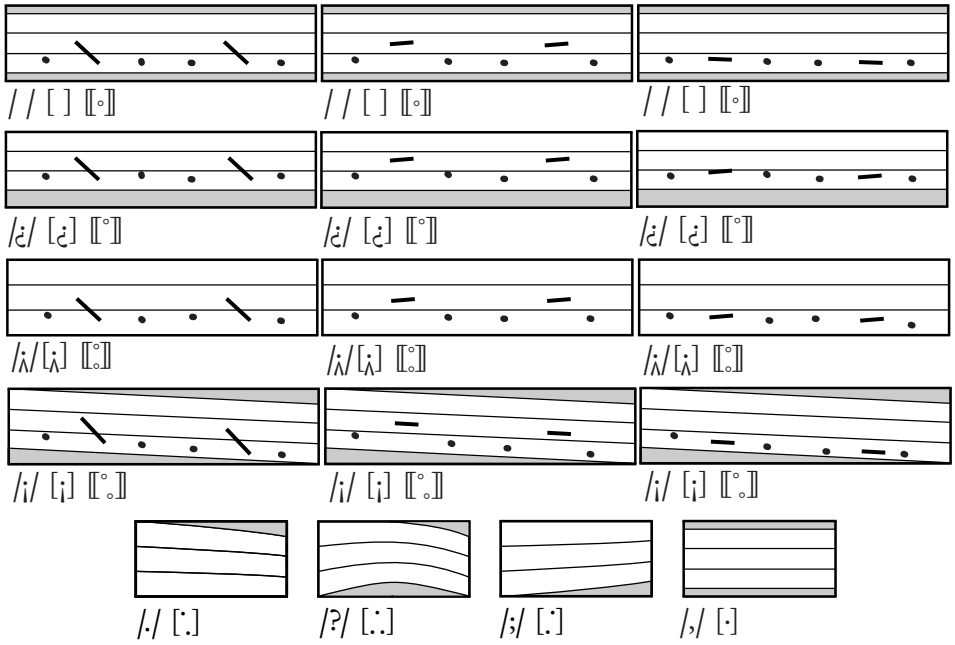
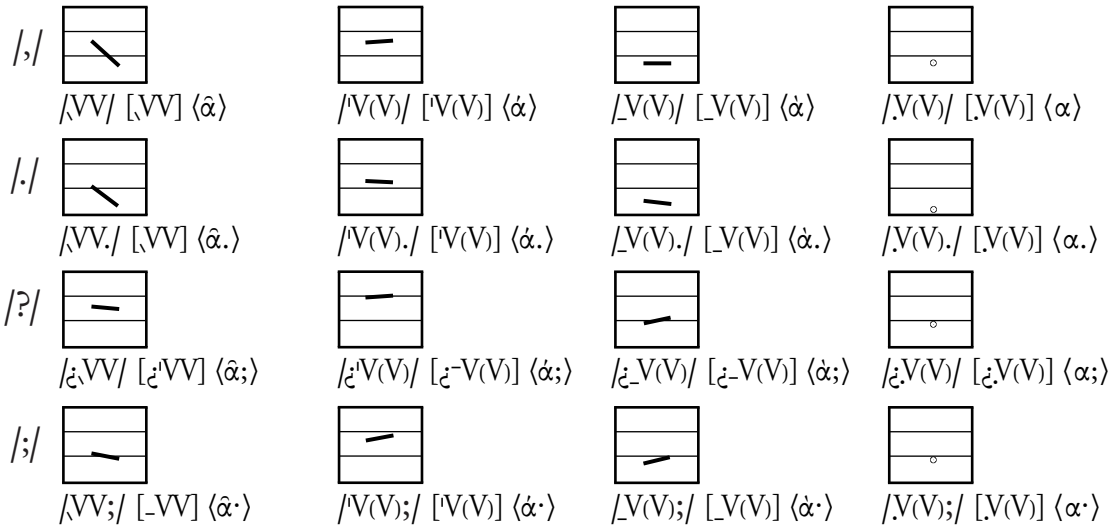


fig 5.3. Ancient Greek tonemes: their taxotones combined with the tunes.



compressed towards the middle part of the tonogram, while the interrogative one (/¿/) is a little raised, as can be seen.

Let us notice that the emphatic protune (/ˆ/) does not present any modification, in comparison with the other two. Lastly, the imperative protune (/¡/) is characterized by a descending movement.

It is important to notice well that the four tonograms on the left also show the different movements of toneme /ˏ/ [˩] (ᾱ), including the unmarked and unstressed toneme // [˧] (α).

The tonograms in the middle show the movements of toneme /ˈ/ [ˈ] (ά), while those on the right, obviously, show the differences for toneme /_/ [_] (ὰ).

Sentences

5.18. Let us, now, consider (always very carefully) *fig* 5.3, which shows how the four tonemes are modified, when they occur in each of the four tunes. In fact, their movements amalgamate with the typical movements of the tunes.

The tonetic notation of the four tunes must be interpreted as indicating just the typical movements: falling [˙], rising-falling [˙˙], rising [˙], and middle (unchanging) [·], certainly not real movements from high to low, nor low-high-low, nor low-high…

5,19. Here are some sentences illustrating the use of intonation in classical Greek, following our reconstruction.

Βουλοίμην ἄν ἑλληνίζειν ἐπίστασθαι.
[˧bʊˈloɪ˧mɛ˩˩nan ˧helˌlɛˈnɪd˧zeɪ ˧neˈpɪs˧tɐs˩˩thɐɪ˙]
(I'd like to speak Greek well)

Ἴσμεν τὶ λέγειν βούλῃ.
[ˈɪz˧meɲ ˧tɪˈle˧geɪm ˈbʊu˧lɛɪ˙]
(We know what you mean)

Χάριν σοι ὅτι πλεῖστον ἔχω.
[ˈkhɐ˧ɾɪɲ˧soɪ ˈho˧tɪ ˏpleɪs˧to ˈne˧khɔ˙] ([ˈɦo˧tɪ])
(Thank you very much)

Τὶ δοκεῖς περὶ τούτου;
[¿_tɪ ˧doˏkeɪs ˧peˈɾɪˈtʊu˧tʊ˙]
(What do you think about it?)

Πῶς ἔχεις τήμερον;
[¿˩˩pɔˈse˧kheɪs ˈtɛɛ˧me˧ɾon˙]
(How are you feeling today)

Ποῖ ἴμεν;
[¿˩˩poɪˈjɪ˧men˙]
(Where are we going?)

Ἆρ’ ἑλληνίζεις;
[ˌ¿ˌaaɾ ˌhelˌlɛˈnɪdˌzeɪsˌ˙]
(Can you speak Greek?)

Ὁ σὸς ἀδελφὸς καταλαμβάνει τούτο;
[ˌho..soˌsɐˌdelˌphos· ˌkɐ..tɐˌlɐmˈbɐˌneɪˌtʊˌtoˌ˙]
(Does your brother understand it?)

Αὐτὸς ἱκνεῖται αὔριον;
[ˌ¿ˌɐʊˌtos ˌhɪkˌneɪˌtɐɪ· ˈɐʊˌɾɪˌjonˌ˙]
(Is he coming tomorrow?)

Εἰ μὴ δύνασαι ἐκνεῖσθαι ἐν τῷ ὑστεραίῳ σαββάτῳ, πράγματα σχήσομεν.
[ˌeɪ..mɛˈdʉˌnɐ..sɐɪ ˌheˌkˌneɪsˌthɐɪ· ..ˌjɛnˌtɔɪˌhʉsˌteˈɾɐɪˌjɔɪ sˌɐbˈbɐˌtɔɪˌ| ˈpɾaagˌmɐˌtɐs ˈkhɛɛˌsoˌ..menˌ˙]
(If you can’t come on Saturday, we’ll be in trouble)

Ὅτε ἐφικόμην τὴν λιμήν, ἡ ναῦς ἀνελελύκει.
[ˈhoˌte(e) ˌphɪˈkoˌmɛn ˌtɛnˌlɪˈmɛɛnˌ˙| ˌhɛ_nɐʊˌsɐ..neˌleˈlʉˌkeɪˌ˙]
(When I came to the harbor, the ship had gone)

Πορεύσομαι δὲ ἐν ἅρματι, ἢ πεζῇ;
[¿ˌpoˈɾeʊˌsoˌmɐɪ ˌde(e)ˈnɐɾˌmɐˌtɪˌ˙ ¿..ɛˌpedˈzɛɛɪˌ˙]
(Sall we go by coach, or on foot?)

Εἰσί· ἕν, δύο, τρία, τέσσαρα, πέντε.
[ˌeɪˈsɪˌ¦ ˈheɲ· ˈdʉo· ˈtɾɪˌjɐ· ˈtesˌsɐˌɾɐˌ˙¦ ˈpeɲˌteˌ˙]
(There are: one, two, three, four, five)

Εἰσί· ἕν, δύο, τρία, τέσσαρα, πέντε...
[ˌeɪˈsɪˌ¦ ˈheɲ· ˈdʉo· ˈtɾɪˌjɐ· ˈtesˌsɐˌɾɐ· ˈpeɲˌte·]
(There are: one, two, three, four, five…)

Εἰ μὴ δύνασαι ἐκνεῖσθαι ἐν τῷ ὑστεραίῳ σαββάτῳ, οὐδὲν ἔσται πρᾶγμα.
[ˌeɪ..mɛˈdʉˌnɐ..sɐɪ ˌheˌkˌneɪsˌthɐɪ· ..ɛnˌtɔɪ..hʉsˌteˈɾɐɪˌjɔɪ sˌɐbˈbɐˌtɔɪ·| ˌʊ_de ˌnesˌtɐɪˌpɾaagˌmɐˌ˙]
(If you can’t come on Saturday, there’s no problem)

Πορεύσομαι ἐν ἅρματι, ἢ ἐν νηΐ, ἢ πεζῇ;
[¿ˌpoˈɾeʊˌsoˌmɐɪ ˌjeˈnɐɾˌmɐˌtɪ·¦ ¿ˌɛenˌnɛˈɪˌ˙| ¿..ɛˌpedˌzɛɛɪˌ˙]
(Are we going by coach, by ship, or on foot?)

Τόδε λεξικὸν τῷ ὄντι ὠφέλιμόν ἐστι.
[ˈtoˌde ..leˌkˌsɪ_koɲ ˌtɔˈjoɲ ˌtɪˌjɔˈpheˌlɪ..moˌnesˌ.tɪˌ˙]
(This is a very useful dictionary)

Τόδε λεξικὸν τῷ ὄντι ὠφέλιμόν ἐστι.
[ˌʌˈtoˌdeˌ ..leˌkˌsɪ_koɲ ˌtɔˈjoɲ ˌtɪˌjɔˈpheˌlɪ..moˌnesˌ.tɪˌ˙]
(*This* is a very useful dictionary)

Τόδε *λεξικὸν* τῷ ὄντι ὠφέλιμόν ἐστι.
[ˌʌˈtoˌde ..leˌkˌsɪ_koɲˌ ˌtɔˈjoɲ ˌtɪˌjɔˈpheˌlɪ..moˌnesˌ.tɪˌ˙]
(This is a very useful *dictionary*)

Τόδε λεξικὸν *τῷ ὄντι* ὠφέλιμόν ἐστι.
[ˈto.de ˌˌleɬ.sɪ_koɲ ˌtɔˈʲjoɲ.tɪ.ɟɔ ˈphe.lɪˌˌmo.nesˌˌtɪ̯.]
(This is a *very* useful dictionary)

Τόδε λεξικὸν τῷ ὄντι *ὠφέλιμόν* ἐστι.
[ˈto.de ˌˌleɬ.sɪ_koɲ· ˌtɔˈʲjoɲ.tɪ ˌˌɔˈʲphe.lɪˌˌmo.nesˌˌtɪ̯.]
(This is a very *useful* dictionary)

Οὔ δῆτα, εἶπε, οὐκ ἔπραξα τούτο.
[ˌˌʊˎdɛɛ.tɐ̯. ˌˎeɪ.pe·ˌ ˌʊˈɬke.pɾɐk.sɐˌˌtʊ.to.]
(No, he said, I haven't done it)

Ναὶ δή, ὦ φιλότης.
[_nɐɪˈdɛɛ̯. ˌˌɔ.phɪˈlo.tɛs̯.ˌ]
(Of course, my dear)

Ναὶ δή, ὦ φιλότης. Αὔριον δέξῃ ἐμὸν δῶρον.
[_nɐɪˈdɛɛ̯. ˌˌɔ.phɪˈlo.tɛs̯.ˌ| ˈɐʊ.ɾɪ.ɟoɲ ˈdeɬ.sɛ.ɟe ˌˌmoɲˎdɔɔ.ɾon̯.]
(Of course, my dear. Tomorrow you'll have a present)

Ναὶ δή, ὦ φιλότης, αὔριον δέξῃ ἐμὸν δῶρον.
[_nɐɪˈdɛɛ̯. ˌˌɔ.phɪˈlo.tɛs·ˌ ɐʊ.ɾɪ.ɟoɲ ˈdeɬ.sɛ.ɟe ˌˌmoɲˎdɔɔ.ɾon̯.]
(Of course, my dear, tomorrow you'll have a present)

'Επ' ἀληθείας, εἶπε, ἀπορίας τινὰς ἔχω.
[ˌˌe.pɐ.lɛˈtheɪ.ɟas· ˌˎeɪ.pe·ˌ ˌˌɐ.poˈɾɪ.ɟas ˌtɪˌˌnɐˈse.khɔ̯.]
(As a matter of fact, he said, I'm not at all sure)

Ὦ φιλότης, ἆρ' οὐ ἀναμιμνήσκῃ, ὅτι ἐβλέψαμεν ἐκείνον πίνακα ἐν τῇ παρελθόντι ἑβδομάδι ἐβλέψαμεν;
[ˌˌɔ.phɪˈlo.tɛs·ˌ ˀˎaa.ɾʊ.ɯɐ ˌˌnɐ.mɪmˈnɛɛɪs̯.kɛɪ· ˀˌˌho.tɪ.ɟeˈblep.sɐˌˌme· ˀˌneˈɬkeɪ.nom ˈpɪ.nɐ.kɐ· ˌˌeɲ.tɛɪˌˌpɐ.ɾelˈthoɲ.tɪ ˌˌɦeb.doˈmɐ.dɪ·ˌ ˀˌeˈblep.sɐ.men̯.]
(My dear, don't you remember we saw that picture last week?)

Ἵνα τὶ εἴρηκας «μοι μέλει μηδέν», παρ' ἐματοῦ αἰτῶ, τοὐναντίου ἀληθεύοντος;
[ˀˈhɪ.nɐ .tɪˈjeɪ.ɾɛ.kɐs· ˈˌmoɪˈme.leɪ .mɛˈden̯.ˈˌpɐ.ɾe.mɐˎtʊu .ɐɪˎtɔɔ·ˌ ˀˌˌtʊ.nɐɲˈtɪ.ɟʊ.ɯɐ .lɛˈthe-.ɯoɲˌˌtos̯.]
(Why did you say 'I don't mind', I wonder, when the opposite is true?).

6.
Texts in phonotonetic transcription

'The North Wind and the Sun'

6.1. Let us start with the passage that the International Phonetic Association uses to illustrate the languages to be dealt with: *The North Wind and the Sun*. It is traditionally used, although it is not the most recommendable one, but we add at least two total questions at the end, not to ignore intonation). Obviously, it is useful and necessary to observe it very carefully.

6.2. Here is the English text (in a non-literal translation from Greek).

The North Wind and the Sun were disputing which was the stronger, when a traveler came along wrapped in a warm cloak. They agreed that the one who first succeeded in making the traveler take his cloak off should be considered stronger than the other.

*Then the North Wind blew as hard as he could, but the more he blew the more closely did the traveler fold his cloak around him; and at last the North Wind gave up the attempt. Then the Sun shone out warmly, and immediately the traveler took off his cloak. And so the North Wind was obliged to confe**s** that the Sun was the stronger of the two.*

Did you like the story? Do you want to hear it again?

6.3. And here is the Greek text. Let us carefully consider the nature of our narrow diphthongs (in the vocograms, in Ϭ 3): ει [eɪ], ου [ʊu], ῃ-ηι [εεɪ], ᾳ-αι [aaɪ], ῳ-ωι [ɔɔɪ] (rather than [ee, uu] and [εε, aa, ɔɔ], or [eː, uː] and [ɛːɪ, aːɪ, ɔːɪ]).

They are similar to those of many modern languages, like English, Dutch, Swedish, Turkish, Hindi, still described too often as if they were really 'long vowels', [Vː], instead of real narrow diphthongs, [VV]. We also simply show that English '[iː, uː]' are actually /ii, uu/ [ɪi] and [ʊu, μu], respectively. Nobody can deny this obvious fact.

Βορέας καὶ Ἥλιος περὶ δυνάμεως ἤριζον· ἔδοξε δὲ αὐτοῖς ἐκείνῳ τὴν νίκην ἀπονεῖμαι, ὃς ἄν αὐτῶν ἄνθρωπον ὁδοιπόρον ἐκδύσῃ. Καὶ ὁ Βορέας ἀρξάμενος σφοδρὸς ἦν· τοῦ δὲ ἀνθρώπου ἀντεχομένου τῆς ἐσθῆτος μᾶλλον ἐπέκειτο.

Ὁ δὲ ὑπὸ τοῦ ψύχους καταπονούμενος ἔτι μᾶλλον καὶ περιττοτέραν ἐσθῆτα προσελάμβανεν, ἕως ἀποκαμὼν ὁ Βορέας τῷ Ἡλίῳ μεταπαρέδωκε. Κἀκεῖνος τὸ μὲν πρῶτον μετρίως προσέλαμψε· τοῦ δὲ ἀνθρώπου τὰ περισσὰ τῶν ἱματίων ἀποτιθεμένου σφοδρότερον τὸ καῦμα ἐπέτεινε, μέχρις οὗ πρὸς τὴν ἀλέαν ἀντέχειν μὴ δυ-

νάμενος ἀποδυσάμενος ποταμοῦ παραρρέοντος ἐπὶ λουτρὸν απῄει.
Ἆρ’ ἔαδέ σοι ὁ μῦθος; Ἦ βουλόμεθα αὐτὸν πάλιν λέγειν;

[.boˈɾeas .kɐɾˈɦɛɛ.lɪ.jos .pe..ɾɪ.dʉˈnɐ.meɔ ˈsɛɛ.ɾɪd.zon·¦ ˈe.dok..se .deɐʊ.toɪ.seˈkeɪ.nɔɪ .tɛnˈniiˌkɛ ..nɐ.poˌneɪ.mɐɪ.ˈ¦ .ɦo..sɐ.nɐʊ.tɔ ˈnɐɲ.thɾɔ.pon ..ho.doɪˈpo.ɾo .neˈkˈdɯɯ.sɛɪ.ˈ| ..kɐɪ-.ɦo.boˈɾea .sɐɾkˈsɐ.me..nos .pho_dɾo.sɛn.ˈ¦ .ːtʊ.deɐɲˈthɾɔɔ.pʊu.ɯɐɲ ..te.khoˈme.nʊ .ːtɛ-.sesˌthɛɛ.toz ˌmaal.lo .neˈpe.ˈkeɪ.toˑ.|
..ho.de.ɦʉ..po.tʊpˈsɯɯ.khʊs ..ke.tɐ.poˈnʊu.me.nos·¦ ..e.tɪˌmaal.loŋ ..kɐɪ.pe..ɾɪt.toˈte.ɾɐ .nesˌthɛɛ.tɐ ..pɾo.seˈlɐm.bɐ.nen·¦ ˈheɔ.sɐ ..po.kɐ_mɔɔn .ho.boˈɾeas .tɔɪ.ɦɛˈlɪ.jɔɪ .me..tɐ.pɐ-ˈɾe.dɔ.keˑ.| .kaˌkeɪ.nos ..to.memˌpɾɔɔ.tom .meˈtɾɪ.jɔs .pɾoˈse.lɐmp.se.ˈ¦ .ːtʊ.deɐɲˈthɾɔɔ.pʊ ..tɐ.peˌɾɪs_sɐ .tɔn..hi.mɐˈtɪ.jɔ .nɐ.po..tɪ.theˈme.nʊ·¦ s.phoˈdɾo.te.ɾoɲ .toˌkɐʊ.mɐe ˈpe.teɪ-.neˑ ˈme.khɾɪs ˌhʊu.pɾos ..tɛ.nɐˈlea .nɐɲˈte.ˈkheɪm ..mɛ.dʉˈnɐ.me.nos·¦ .ɐ.po.dʉˈsɐ.me.nos ..po.tɐˌmʊu .pɐ.ɾɐɾˈɾeoɲ.to .se..pɪ.lʊ_tɾo .nɐˈpɛɛ.jeɪˑ.|
¿ːaɾ.heɐˈde.soɪ .ɦoˌmɯɯ.thos.ˑ.| ¿ː.ɛ.bʊˈlo.me.thɐ· .ɐʊ..tomˈpɐ.lɪn ˈle.ɡeɪn.ˑ.].

Some conversations

Ὁ μὲν διδάσκαλος δείκνυσι τὰ γράμματα, οἱ δὲ παίδες ἀναγιγνώσκουσι·
«Πῖ, ὂ μικρόν, λάμβδα, ὗ ψιλόν, μῦ, ἦτα, ἰῶτα, σῖγμα· πο-λύ-μη-τις Ὀ-δυσ-σεύς.»
«Εὖ λέγετε, ὦ παίδες!»

[.ho..meɲ.dɪˈdɐs.kɐ.loz· ˈdeɪk.nʉ..sɪ .tɐˈgɾɐm.mɐ.tɐˑ.| .hoɪ..deˈpeɪ.de .sɐ..nɐ.ɡɪgˈnɔɔs.kʊ.sɪ·¦]
ˈˌpii· ..o.mɪˈkɾon· ˈlɐmb.dɐ· ˌʉpˌsɪˈlon· ˌmɯɯ· ˌɛɛ.tɐ· ɾˌjɔɔ.tɐ· ˌsiiɡ.mɐ.ˈ| .poˈlʉ.me.tɪ ..so.dʉsˈseʊs.ˈ˥
ˌeʊˈle.ge.teɔ· ˈpeɪ.desˑ.] (or σίγμα [ˈsɪɡ.mɐ])

(The teacher indicates the letters, and the kids read:
‘pi, omicron, lambda, upsilon, mu, eta, tau, iota, sigma: astute Ulysses’.
Quite well, kids!)

Οἱ παῖδες ἀκούσουσί τε καὶ γράφουσι. Μανθάνουσι γὰρ οἱ παῖδες τὸ γράφειν.
Ὁ δὲ διδάσκαλος ἐρωτᾷ τὸν Φίλλον· «Τί ἐστιν, ὦ παῖ, τὸ πρῶτον γράμμα;»
«Τὸ ἄλφα πρῶτόν ἐστιν, ὦ διδάσκαλε», λέγει ὁ Φίλλος.
«Εὖ λέγεις, ὦ Φίλλε.»

[.hoɪˌpeɪ.de .sɐˈkʊu.sʊ.sɪ· ..te.keɪˈgɾɐ.phʊ.sɪˑ.| .mɐɲˈthɐ.nʊ.sɪ· ..gɐɾ.hoɪˌpeɪ.des .toˈgɾɐ.pheɪnˑ.|
.ho..de.dɪˈdɐs.kɐ.lo ..se.ɾɔˌtaaɪ .tomˈphɪl.lonˑ.¦ ¿ˈtɪ.jes.tɪ· ˌnɔˌpɐɪ·˩ ¿.toˌpɾɔɔ.toŋˈgɾɐm.mɐˑ.
˥.toˈɐl.phɐ· .ːpɾɔˈto.nes.tɪ·.nɔdɪˈdɐs.kɐ.leˑ.˥ˌˈle.geɪ ..ɟoˈphɪl.losˑ.˩
ˌeʊˈle.geɪ .sɔˈphɪl.leˑ.]

(The kids listen and write. Thus, the kids learn to write.
And the teacher asks Phillo: ‘Which is, my kid, the first letter?’
‘Alpha is the first letter, teacher’, Phillo says.
‘Correct, Phillo.’)

Ὁ διδάσκαλος ἐρωτᾷ νῦν τὸν Κότταλον. Ὁ δὲ Κόττταλος οὐ σαφῶς γιγνώσκει τὰ γράμματα.

«Οὗτος, εἰπέ μοι, τί ἐστι τὸ ὕστατον γράμμα;»
Ὁ δ’ἐν ἀπορίᾳ ὢν σιωπᾷ. Καὶ τέλος λέγει τάδε· «Ὦ μοι...»
«Εὖ λέγεις, ὦ Κότταλε. Τὸ *ὦ* ἐστι τὸ ὕστατον.»

[ˌho.drˈdɐs.kɐ.lo ˌse.ɾɔˌtaaɪ· ˌˌnʉʉn·˩ ˌtoŋˈkot.tɐ.lonˑ| ˌho..deˈkot.tɐ.lo ˌsʊ.sɐˌphɔɔz ˌgɪgˈnɔɔs.ʞeɪ ˌtɐˈgɾɐm.maˌtɐˑ|
˩ˌhʊu.to·˥ ˌ.seɪˈpe.moɪ·˩ ˩ˀˈtɪ.jes.tɪ ˌto.ˌhʉs.tɐ.toŋ ˈgɾɐm.mɐˑ˥|
ˌho..de.nɐ.poˈrɪ.jɐɪ ˌˌjɔn.sɪ.jɔˌpaaɪˑ| ˌkɐɪˈte.loz ˈle.geɪ ˈtɐdeˑ¦ ˈɔɔ.moɪ·
ˌɐʊˈle.geɪ ˌ.sɔˈkot.tɐ.leˑ˩¦ ˌto.ɔɔes.tɪ ˌtoˈhʉs.tɐ.tonˑ]

(Now, the teacher interrogates Kottalos. But Kottalos does not master the letters.
‘Do tell me which is the last letter?’
He does not know what to answer. At last, he says so: ‘Oh, dear…’
‘Correct, Kottalos. *o* is the last one’.)

Πολλάκις δὴ λέγει ὁ παιδοτρίβης τοῖς παισὶ τάδε· «Οἱ καλοὶ κἀγαθοὶ γυμνάζουσι τὰ σώματα». Ὁ γὰρ καλὸς κἀγαθὸς ἔχει ἀεὶ στῆθος λιπαρόν, χρῶτα λαμπρὸν καὶ ὤμους μεγάλους.
Τοιούτοις οὖν λόγοις πειρᾶται πείθειν τοὺς νέους ἀθλητάς.

[ˌpolˈlɐ.kɪz.deˑ ˈle.geɪ ˌjo..pɐɪ.doˈtɾɪ.bɛs· ˌ.toɪs.pɐɪ_sɪ ˈtɐ.deˑ¦ ˩ˌ.hoɪ.kɐ_loɪ ˌka.gɐˈthoɪ· ˌgʉmˈnɐd.zʊ.sɪ ˌtɐˈsɔɔ.mɐ.tɐˑ| ˌho..gɐɾ.kɐ_los ˌka.gɐˈtho ˈse.kheɪ ˌjɐ_ɛɪs· ˌˌtɛɛ.thoz ˌ.lɪ.pɐˈɾon·¦ ˌkhɾɔɔ.tɐ ˌlɐmˈpɾoŋˑ¦ ˌkɐɪˈjɔɔ.mʊz ˌmeˈgɐ.lʊsˑ.
ˌtoɪˈjʊu.toɪ ˌsʊnˈlo.goɪs· ˌpeɪˌɾaa.tɐɪ ˈpeɪ.thɐn· ˌtʊzˈneʊ ˌsɐ.thlɛˈtasˑ]

(Often the training master tells the kids so: ‘Valiant [‘handsome and good’] people work out’.
In fact, a valiant person must have a shapely breast, a good color, and broad shoulders.
With such words, then, he tries to convince young athletes.)

Ὁ οὖν Κότταλος λέγει τῷ παιδοτρίβῃ τάδε· «Ἔλαιον ἡμῖν οὐκ ἔνεστιν ἐν τῷ ἀρυβάλλῳ· διὰ τοῦτο αἰτοῦμέν σε ὀλίγον τοῦ ἐλαίου, ὦ παιδοτρίβα.»
«Τὸ μὴ ἀμελεῖν μάθετε, νὴ τὸν Δία! Ἆρ’ ὁρᾷς τὸ θύριον τοῦτο;»
«Νὴ τὸν Ἡρακλέα, ὁρῶ!»
«Ἐνταῦθά ἐστι τὸ ἡμέτερον κοινὸν ἔλαιον. Ἄγετε δή, ταχέως λάθετε!»

[ˌho..ʊŋˈkot.tɐ.loz ˈle.geɪ ˌtɔɪ..pɐɪ.doˈtɾɪ.bɛɪ ˈtɐ.deˑ¦ ˩ˈe.lɐɪˌjon ˌhɛˌmɪ ˌnʊˈʞe.nes..tɪ ˌneɲ..tɔɪˌjɐ.ɾʁˈbɐl.lɔɪ.ˑ¦ dɪˌjɐˌtʊu.toˑ ɐɪˌtʊu.meɲ.seo ˈlɪ.goɲ ..tʊ.ɯeˈlɐɪ.jʊˑ. ˌ.ɔ..pɐɪdoˈtɾɪ.bɐˑ˩
ˌˌ.to..mɛɐ.meˈleɪm ˈmɐ.the.teˑ. ˌˌˌ..nɛ.toɲˈdɪ.jɐˑ.˩| ˿..aɾ.hoˌɾaaɪs toˈthʁ.ɾɪ.joɲ ˌtʊu.toˑ.
_nɛɛ· ˌton..hɛ.ɾɐˈkleɐˑ| ˌho.ˌɾɔɔˑ.
ˌeɲ.tɐʊˈthɐes.tɪ ..to.hɛˈme.te..ɾoŋ ˌkoɪ..noˈne.lɐɪ.jonˑ| ˈɐ.ge.te ˈdɛɛˑ¦ ˌtɐˈkheɔz ˈlɐ.the.teˑ.]

(Therefore, Kottalos says so to the training master: ‘There is no more oil in the bottle; so we ask you for some, master’.
‘Learn not to be careless, by Jove! Can you see this tiny door?’
Ye, by Herakles, I can see it’.
‘There is our common oil, there. Now then, take it, quickly!’)

Τῆς ὥρας οὔσης σταδιοδρομεῖν, ὁ παιδοτρίβης κελεύει τοὺς δρομέας ἑτοιμάζεσθαι. Οἱ μέν, δρομεῖς ὄντες, παρασκευάζοναι πρὸς τὸν δρόμον· οἱ δέ, οὐ μετέχοντες τοῦ δρόμου, ἀφίστανται τε καὶ μέλλουσι παρορμᾶν αὐτούς.
Νῦν δὴ ἵστανται κατὰ στοῖχον οἱ δρομεῖς. «Σιγᾶτε δή!», λέγει ὁ παιδοτρίβης και σιγῶσιν οἱ πολλοὶ τῶν ἐν τῷ σταδίῳ, ὃ ἐγγὺς τῆς παλαίστρας κεῖται.

[ˌtɛˌsɔɔ.ɾa ˈsʊuˌsɛs· (s)ta..dɪo.dɾoˈmeɪn·¦ .ho..pɐɪ.doˈtɾɪ.bɛs .ɬkeˈleʊˌɷeɪ ..tʊz.dɾoˈmeɐs .he.toˈmɐd.zesˌthɐɪ̯ˑ| .hoɪˈmeɲ· ˌdɾoˌmeɪˌsoɲ.tes·˩ .pɐ..ɾɐs.keʊˈwɐd.zoɲ.tɐɪ ..pɾosˌtoɲˈdɾo.monˑ¦ .hoɪˈde· ˩..ʊ.meˈte.khoɲ..tes .tʊˈdɾo.mʊ·˩ .ɐˈphɪs.tɐɲ..tɐɪ .te..kɐɪˈmelˌlʊ.sɪ ..pɐ.ɾoɾˌmaa .nɐʊˈtʊusˑ|
ˌnɯɯɲ ..dɛˈhɪs.tɐɲ.tɐɪ· ..kɐ.tɐsˌtoɪ.khon ..hoɪ.dɾoˌmeɪsˑ| ¡.sɪˌgaa.te "dɛɛˑ ˈle.geɪ .ho..pɐɪ.doˈtɾɪ.bɛsˑ¦ ..kɐɪ.sɪˌgɔɔ.sɪ ..hoɪ.pol..loɪˌtɔɔ .neɲ.tɔɪs.tɐˈdɪ.ɟɔɪ·¦ .hoeŋ..gʉs.tɛs.pɐˈlɐɪs.tɾas ˌɬkeɪ.tɐɪˑ]

(As it is time to run in the stadium, the training master orders the runners to get ready. Some, who are runners, get ready for the run; others, who do not take part in the run, move aside to encourage them.
Now the runners line up. 'Silence!' shouts the master, and many of them shut up in the stadium, which is near the gym.)

«Ὦ Ἀρίστιππε, δεῦρ' ἐλθέ!»
«Τί δέ, ὦ διδάσκαλε;»
«Ὥρα ἐστὶ παύεσθαι. Σύ, καὶ Φίλλος καὶ Κότταλος, φέρετε δεῦρο τὰς ὑδρίας.»
«Ἆρα λαμβάνομεν καὶ τὰς στλεγγίδας;»
«Πάνυ γε, στλεγγίδας τε καὶ σπόγγους λάθετε.»
«Ναί!»
«Καὶ λέγω πάλιν ὑμῖν ὅτι χρὴ τοὺς νεωτέρους ὑμῶν σπόγγοις χρῆσθαι ἀντὶ στλεγγίδος, καὶ μὴ ἄγαν τραχέως χρίεσθαι τὸ σῶμα!»

[ˈ.ɔɐˈɾɪs.tɪp.peˑ¦ ˌdeʊ.ɾeɪˈthe.ˈ|
ˈ¿ˈtɪ ˈdeˑˈ ˌ..ɔ.dɪˈdɐs.kɐ.leˑ˩
ˈhɔɔ.ɾaes..tɪ ˈpɐʊ.ɷesˌtɐɪ̯ˑˈ| ˈsɯɯ· .kɐɪˈphɪl.los· .kɐɪˈkot.tɐ.losˑ¦ ˈphe.ɾe.te ˌdeʊ.ɾo· ..tasˌhʉˈdɾɪ.ɟasˑˈ|
ˈ¿.a.ɾɐ.lɐmˈbɐ.no.meŋ ..kɐɪ.tas(s).tleŋˈgɪ.dɐs.ˑˈ|
ˈʎˈpɐ.nʉ.ges· .tleŋˈgɪ.dɐs· .te.kɐɪsˈpoŋ.gʊz ˈlɐ.the.teˑˈ|
ˈʎˈnɐɪ̯ˑ|
ˈ..kɐɪˈle.gɔ ˈpɐ.lɪn· .hʉˌmiin ˈho.tɪ· ..khɾɛ.tʊz.neɔˈte.ɾʊs .hʉˌmɔɔns· ˈpoŋ.goɪs ˌkhɾɛɛs.thɐɪ̯· .ɟɐɲ..tɪs.tkeŋˈgɪ.dosˑ| ..kɐɪ.mɛˈɐ.gɐɲ .tɾɐˈkheɔs ˈkhɾɪ.jes.thɐɪ .toˌsɔɔ.mɐˑˈ]

('Aristippus, come here.
'What's up, master?'
'It's time to stop. You, Phillos, and Kottalos, bring here the jugs of water.'
Shall we take the scrapers, too?'
'Sure, take scrapers and sponges, as well.'
'Yes!'
'I repeat that the youngest of you have to use a sponge, rather than a scraper, and they mustn't rub too hard their body!')

«Ἆρ’ οὖν, μεταμέλει σοι τῶν πεπραγμένων;»
«Ἔγωγε, ὦ διδάσκαλε, εὖ οἶδα ὅτι ἐξήμαρτον διὰ τὴν βλακείαν τοῦτο ποιῶν.»
«Οὕτω κἀγώ, εἰ μὴ ἐκόλαζον, ἠδίκουν ἄν.»
«Φαίνεται.»
«Καὶ δὴ καὶ τὸ ἀδικεῖν κάκιον τοῦ ἀδικεῖσθαι, ἢ οὔ;»
«Ἀνάγκη.»
«Ἀλλ’ ἄκουσον· πείθειν μέν σε βούλομαι, κακῶς ποιεῖν δ’ οὔ».
«Ὁμολογήσω σοι.»
«Ἐλπίζω τοίνυν σε βελτίω ποιήσειν τῷ λόγῳ.»

[ˈ¿.aˌɾʊum· .me.tɐˈme.leɪ.soɪ .tɔm..pe.pɾɐgˈme.nɔn.ˈ|
ˈe.gɔ.geˈ· ˌ..ɔ.dɪˈdɐs.kɐ.leˈ¦ eʊˌѡoɪ.dɐ ˌho.tɪ.ɟɐkˈsɛɛ.mɐɾ.toɲ .dɪ..ɟɐ.tɛm.blaˈkeɪ.ɟɐɲ ˌtʊu-
.to.poɪˌjɔɔnˈ.ˈ
ˈhʊu.to .kaˈgɔɔ· ˌ.eɪ..mɛeˈko.lɐd.zon·˩¦ .ɛˈdɪ.kʊ.nɐnˈ.ˈ|
ˈphɐɪ.ne.tɐɪˈ.ˈ¦
ˈ.kɐɪ..dɛ.kɐɪ..toɐ.dɪˌkeɪŋ· ˈkɐ.kɪ.ɟonˈ.¦ .tʊ.ѡɐ.dɪˌkeɪs.thɐɪˈ.¦ .ɛˈʊuˈ.ˈ
ˈ.ɐˈnɐŋ.kɛˈ.ˈ
ˈ.ɐlˈlɐ.kʊ.sonˈ·¦ ˈpeɪ.theɪm ˈmeɲ.se ˈbʊu.lo.mɐɪˈ.| .kɐˌkɔɔs poɪˈjeɪɲ· ˈdʊuˈ.
ˈ.ho..mo.loˈgɛɛ.sɔ.soɪˈ.ˈ
ˈ.elˈpɪd.zɔ· ˌˈtoɪ.nʁnˈ·˩ ..se.beɬˈtɪ.ɟɔ .poɪˈjɛɛ.seɪɲ· tɔɪˈlo.gɔɪˈ.]

(‘Now then, d’you repent of what you’ve done?’
‘Sure, master, I do know I was wrong doing that, owing to my laziness.’
‘So, I’d be unjust, as well, if I shouldn’t punish you.’
‘It’s obvious.’
‘It’s certainly worse to do an unjustice than to be subjected to that, or not?’
‘That’s so.’
‘But listen: I want to convince you, not to mishandle you.’
‘I’ll agree with you.’
‘I hope, then, to make you better through reasoning.’)

Ὁ παιδαγωγὸς ἀπάγει τὸν Ἀρίστιππον οἴκαδε. Πορευόμενοι δὲ κατὰ τὴν ὁδόν, συντυγχάνουσί τισιν τῶν ἑαυτῶν οἰκετῶν τῷ μὲν στεφάνους φέροντι, τῷ δὲ λαμπάδας ὠνουμένῳ, τῷ δὲ διαλεγομένῳ ταῖς γυναιξὶν ταῖς εἰθισμέναις παρὰ πότον ψάλλειν καὶ αὐλεῖν.

[.ho..pɐɪ.dɐ.gɔ_go .sɐˈpɐ.geɪ· ..to.nɐˈɾɪs.tɪp.po ˈnoɪ.kɐ.deˈ.| .po..ɾeʊˈwo.me.noɪ ..de.kɐ..tɐt-
.en.hoˈdoɲ.ˈ¦ ..sʁɲ.tʁŋ..khɐ.nʊˈsɪ· ..tɪ.sɪɲ.tɔn..heɐʊˌtɔɔ· .noɪ.keˌtɔɔnˈ.| .tɔɪ..meɲs.teˈphɐ-
.nʊs ˈphe.ɾoɲ.tɪ·¦ .tɔɪ..de.lɐmˈpɐ.dɐ ..sɔ.nʊˈme.nɔɪ·¦ .toɪ..de.dɪ.ɟɐ..le.goˈme.nɔɪ .tɐɪz..gʁ-
.nɐɪk_sɪɲ .tɐɪ..seɪ.thɪzˈme.nɐɪs· ..pɐ.ɾɐˈpo.tomp ˈsɐl.leɪŋ ..kɐɪ.ɟɐʊˌleɪnˈ.]

(The teacher takes Aristippos home. Walking along the road, they meet some of their servants, one is carrying some crowns, another buys some torches, another one is talking to some wemen, who are used to sing and pluck and blow their instruments.)

Ἀρίστιππος ὁ Καλλίου εἰσέρχεται οἴκαδε, οὗ μένουσιν ἥ τε μήτηρ καὶ αἱ ἀδελφαί. Ἐπειδὴ μέντοι οὔπω ἐπανῆλθεν ὁ πατήρ, ἐν τῇ αὐλῇ παίζει τὰ τέκνα, τὸ μὲν κόρῃ τινί, τὸ δὲ ἀστραγάλοις καὶ λίθοις.

Ὁ δὲ Καλλίας οὕτω πλούσιός ἐστιν, ὥστε κέκτηται μέγιστον οἶκον. Καὶ γὰρ τὰ τοῦ γένους κτήματα οὐ μόνον ἐν ἄστει πολλά ἐστιν, ἀλλὰ καὶ ἐν τῇ Ἀττικῇ. Πάντες δὲ περιμένουσι φίλων τινάς, οὓς ἐκάλεσεν ὁ Καλλίας ἐπὶ δεῖπνον.

[ˌɐˈrɪsˌtɪpˌpos· ˌˌhoˌkɐlˈlɪˌɟʊ·ˌ ˌerˈseɾˌkheˌtɐɪ ˈjoɪˌkɐˌde·¦ ˌhʊu ˈmeˌnʊˌsɪn ˌˌhɛˌteˈmɛɛˌtɛɾ ˌˌkɐɪˌhɐɪˌˌɟɐˌdelˈphɐɪ˙¦ ˌˌeˌpeɪˌˌdɛˈmeɲˌtoɪ ˈjʊuˌpɔe ˌpɐˈnɛɛl̩ˌthen ˌˌhoˌpɐˈtɛɛɾ˙| ˌeɲˌtɛɪˌɟɐʊˌlɛɛɪ ˈpɐɪdˌzeɪ ˌtɐˈtek̚ˌnɐ·¦ ˌˌtoˌmeŋˈkoˌɾɛɪ ˌtɪˈnɪ·¦ ˌtoˌˌdeʁsˌtɾɐˈgɐˌloɪs ˌkɐɪˈlɪˌthoɪs˙|

ˌhoˌˌdeˌkɐlˈlɪˌɟɐs ˈhʊuˌtɔ ˌplʊˌsɪˈjoˌsesˌtɪn·¦ ˈhɔɔsˌte ˈk̚eˈk̚ˌtɛˌtɐɪ ˈmeˌgɪsˌto ˌnoɪˌkon˙| ˌkɐɪˌˌgɐˌɾɐˌtuˈgeˌnʊsk ˈtɛɛˌmɐˌte·¦ ˌʊˈmoˌnoˌneˈnɐsˌteɪ· ˌpolˈlɐesˌtɪn·¦ ˌɐlˌˌlɐ_kɐɪˌɟeɲ ˌtɛɪˌɟetˌtɪˌk̚ɛɛɪ˙| ˈpɐɲˌtezˌde ˌˌpeˌɾɪˈmeˌnʊˌsɪ· ˈphɪˌlɔɲ ˌtɪˈnɐs˙¦ ˌˌhʊˌseˈkɐˌleˌsen ˌˌhoˌkɐlˈlɪˌɟɐ· ˌseˌˌpɪˌdeɪpˌnon˙]

(Aristippos, son of Kallia, gets home, where his mother and sisters are waiting. Since his father has not got back yet, the daughters are playing in the garden, one with a doll, the other with dice and stones.

Kallia is so rich that he owns a very large house. In fact, his family property is huge, not only in town [*ie* Athens], but also in Attica. All are waiting for some friends that Kallia invited.)

7.
Mini-phono-dictionary

Proper names

Let us notice carefully that the stress pattern of proper names of Greek origin, in different languages of Europe (except in Greece, of course), too often, is quite different from the exact Greek pattern.

In fact, the Latin stress pattern was usually adopted even for Greek names, instead of keeping their real pattern.

The entries of this vocabulary are very good examples, if only we think about Μένανδρος [ˈme.nɐɲ.dɾos], Μίλητος [ˈmii.lɛ.tos], Σαπφώ [.sɐpˈphɔɔ], Σωκράτης [.sɔˈkɾɐ.tɛs], &c.

Α, α

Ἀγάθων [.ɐˈgɐ.thɔn]
Ἀγαμέμνων [..ɐ.gɐˈmem-.nɔn]
Ἀγαυή [..ɐ.gɐʊˈwɛɛ]
Ἀγησίλαος [..ɐ.gɛˈsɪ.laos]
Ἀγχίσης [.ɐŋˈkhii.sɛs]
Ἄδμητος [ˈɐd.mɛ.tos]
Ἄδωνις [ˈɐ.dɔ.nɪs]
Ἄδραστος [ˈa.dɾas.tos]
Ἀθήνη [.ɐˈthɛɛ.nɛ]
Ἀθήναι [.ɐˈthɛɛ.nɐɪ]
Αἴας [ˈɐɪ.ɟas]
Αἰγαῖον [.ɐɪ.gɐɪ.ɟon]
Αἰγεύς [.ɐɪˈgɐʊs]
Αἴγινα [ˈɐɪ.gi.nɐ]
Αἴγιστος [ˈɐɪ.gɪs.tos]
Αἴγυπτος [ˈɐɪ.gʉp.tos]
Ἅιδης [ˈhaaɪ.dɛs]
Αἰθιοπία [..ɐɪ.thɪ.ɟoˈpɪ.ɟa]
Αἰσχίνης [.ɐɪsˈkhɪ.nɛs]
Αἰσχύλος [.ɐɪsˈkhʉ.los]
Αἴσωπος [ˈɐɪ.sɔ.pos]
Ἀκαρνανία [.ɐ..kɐɾ.naˈnɪ.ɟa]
Ἀκράγας [.ɐˈkɾɐ.gas]
Ἀκταίων [.ɐkˈtɐɪ.ɟɔn]
Ἀλικαρνασσός [..ɐ.lɪ..kɐɾ-.nasˈsos]
Ἄλκηστις [ˈɐl.kɛs.tɪs]
Ἀλκιβιάδης [..ɐl.kɪ.bɪˈɟɐ.dɛs]
Ἀλκμαίων [..ɐlkˈmɐɪ.ɟɔn]
Ἀλκμήνη [.ɐlkˈmɛɛ.nɛ]
Ἀλέξανδρος [.ɐˈleˈk.sɐɲ-.dɾos]
Ἀλφειός [-ɐl.pheɾˈjos]
Ἀμαζών [..ɐ.mɐdˈzɔɔn]
Ἀμπρακία [..ɐm.pɾɐˈkɪ.ɟa]
Ἀμφιάρεως [..ɐm.pɪˈɟa.ɾeɔs]
Ἀμφίπολις [.ɐmˈphɪ.po.lɪs]
Ἀμφιτρύων [..ɐm.phɪˈtɾʉ-.ɥɔn]
Ἀναξαγόρας [.ɐ..nɐk.sɐˈgo-.ɾas]
Ἀναξίμανδρος [..ɐ.nɐkˈsɪ-.mɐɲ.dɾos]
Ἀνδοκίδης [..ɐɲ.doˈkɪ.dɛs]
Ἀνδρομάχη [..ɐɲ.dɾoˈmɐ-.khɛ]
Ἀνδρομέδα [..ɐɲ.dɾoˈme.da]
Ἄνδρος [ˈɐɲ.dɾos]
Ἀνταλκίδας [..ɐɲ.tɐlˈkɪ.das]
Ἀντιγόνη [..ɐɲ.tɪˈgo.nɛ]
Ἀντιφῶν [..ɐɲ.tɪ.phɔɔn]
Ἀπατούρια [..ɐ.pɐˈtʊu.ɾɪ.ɟɐ]
Ἀπέλλαι [.ɐˈpelˈlɐɪ]
Ἀπόλλων [.ɐˈpolˈlɔn]
Ἀργινοῦσαι [..ɐɾ.gɪ.nʊu.sɐɪ]
Ἀργώ [.ɐɾˈgɔɔ]
Ἄρης [ˈɐ.ɾɛs]
Ἀριάδνη [..ɐ.ɾɪˈɟɐd.nɛ]
Ἀρισταγόρας [.ɐ..ɾɪs.tɐˈgo-.ɾas]
Ἀριστείδης [..ɐ.ɾɪsˈtɐɪ.dɛs]
Ἀριστογείτων [.ɐ..ɾɪs.to-ˈgɐɪ.tɔn]

Ἀριστοφάνης [ˌɐ.ɾɪs.toˈphɐ.nɛs]
Ἀριστοτέλης [ˌɐ.ɾɪs.toˈte.lɛs]
Ἀρίων [ˌɐˈɾii.jɔn]
Ἀρκαδία [ˌɐɾ.kɐˈdɪ.ja]
Ἄρμόδιος [ˌhɐɾˈmo.dɪ.jos]
Ἅρπαγος [ˈhɐɾ.pɐ.gos]
Ἀρρηφόροι [ˌɐɾ.ɾɛˈpho.ɾoɪ]
Ἀρτάβαζος [ˌɐɾˈtɐ.bɐd.zos]
Ἀρτάβανος [ˌɐɾˈtɐ.ba.nos]
Ἀρταφέρνης [ˌɐɾ.tɐˈphɐɾ.nɛs]
Ἀρταξέρξης [ˌɐɾ.tɐkˈsɐɾk.sɛs]
Ἄρτεμις [ˈɐɾ.te.mɪs]
Ἀρτεμίσιον [ˌɐɾ.teˈmɪ.sɪ.jon]
Ἀρχέδαμος [ˌɐɾˈkhe.da.mos]
Ἀρχέλαος [ˌɐɾˈkhe.laos]
Ἀσία [ˌɐˈsɪ.ja]
Ἀσκλήπιος [ˌɐsˈklɛɛ.pɪ.jos]
Ἀσπασία [ˌas.pɐˈsɪ.ja]
Ἀστυάγης [ˌɐs.tʉˈɥɐ.gɛs]
Ἀστυάναξ [ˌɐs.tʉˈɥɐ.nɐks]
Ἀσωπός [ˌɐ.sɔˈpos]
Ἄτλας [ˈɐ.tlas]
Ἄτοσσα [ˈɐ.tos.sɐ]
Ἀτρεύς [ˌɐˈtɾeʊs]
Ἀττική [ˌɐt.tɪˈkɛɛ]
Αὐλίς [ˌɐʊˈlɪs]
Ἀχαία [ˌɐˈkhɐɪ.ja]
Ἀχαρναί [ˌɐ.khɐɾˈnɐɪ]
Ἀχελῷος [ˌɐ.khe.lɔɔɪ.jos]
Ἀχέρων [ˌɐˈkhe.ɾɔn]
Ἀχιλλεύς [ˌɐ.khɪlˈleʊs]
Ἀφροδίτη [ˌɐ.phɾoˈdii.tɛ]

Β, β

Βαβυλών [ˌbɐ.bʉˈlɔɔn]
Βάκχος [ˈbɐk.khos]
Βελλεροφόντης [ˌbel.le.ɾo.ˈphoɲ.tɛs]
Βοιωτία [ˌboɪ.joˈtɪ.ja]
Βορέας [ˌboˈɾeas]
Βόσπορος [ˈbos.po.ɾos]
Βρασίδας [ˌbɾaˈsɪ.das]
Βραυρών [ˌbɾɐʊˈɾɔɔn]
Βυζάντιον [ˌbʉdˈzɐɲ.tɪ.jon]

Γ, γ

Γαλατία [ˌgɐ.lɐˈtɪ.ja]
Γέλα [ˈge.la]
Γῆ [ˌgɛɛ]
Γίγας [ˈgɪ.gas]
Γλαύκων [ˈglɐʊ.kɔn]
Γοργίας [ˌgoɾˈgɪ.jas]
Γοργώ [ˌgoɾˈgɔɔ]
Γύγης [ˈgʉ.gɛs, ˈgɯɯ.gɛs]
Γύλιππος [ˈgʉ.lɪp.pos]

Δ, δ

Δαίδαλος [ˈdɐɪ.dɐ.los]
Δαρεῖος [ˌdaˌɾeɪ.jos]
Δεκέλεια [ˌdeˈke.leɪ.jɐ]
Δελφοί [delˈphoɪ]
Δῆλος [ˌdɛɛ.los]
Δημήτηρ [dɛˈmɛɛ.tɛɾ]
Δημοσθένης [ˌdɛ.mosˈthe.nɛs]
Διομήδης [ˌdɪ.joˈmɛɛ.dɛs]
Διονύσια [ˌdɪ.joˈnɯɯ.sɪ.jɐ]
Διονύσιος [ˌdɪ.joˈnɯɯ.sɪ.jos]
Διόνυσος [ˌdɪˈjo.nʉ.sos]
Διός [ˌdɪˈjos]
Διόσκοροι [ˌdɪˈjos.ko.ɾoɪ]
Δράκων [ˈdɾɐ.kɔn]
Δρυάς [ˌdɾʊˈɐs]
Δωδώνη [ˌdɔˈdɔɔ.nɛ]
Δωρικός [ˌdɔ.ɾɪˈkos]

Ε, ε

Ἔγεστα [ˈe.ges.tɐ]
Εἴλως [ˈheɪ.lɔs]
Ἑκάβη [ˌheˈkɐ.bɛ]
Ἑκαταῖος [ˌhe.kɐˌtɐɪ.jos]
Ἑκάτη [ˌheˈkɐ.tɛ]
Ἕκτωρ [ˈhek.tɔɾ]
Ἑλένη [ˌheˈle.nɛ]
Ἐλευσίς [ˌe.leʊˈsiis]
Ἑλλάς [ˌhelˈlɐs]
Ἑλλήσποντος [elˈlɛɛs.poɲ.tos]
Ἐμπεδοκλῆς [ˌem.pe.doˌklɛɛs]
Ἐπίδαμνος [ˌeˈpɪ.dɐm.nos]
Ἐπίδαυρος [ˌeˈpɪ.dɐʊ.ɾos]
Ἐπίκουρος [ˌeˈpɪ.kʊ.ɾos]
Ἐρεχθεύς [ˌe.ɾekˈtheʊs]
Ἐρέτρια [ˌeˈɾe.tɾɪ.jɐ]
Ἐρινύς [ˌe.ɾiˈnɯɯs]
Ἑρμῆς [ˌheɾˈmɛɛs]
Ἑρμοκράτης [ˌheɾ.moˈkɾɐ.tɛs]
Ἐρύμανθος [ˌeˈɾʉ.mɐɲ.thos]
Ἐρυθραί [ˌe.ɾʉˈthɾɐɪ]
Ἔρως [ˈe.ɾɔs]
Ἐτεοκλῆς [ˌe.teoˌklɛɛs]
Εὔβοια [ˈeʊ.bo.jɐ]
Εὐθύφρων [ˌeʊˈthʉ.phɾɔn]
Εὔξεινος [ˈeʊk.seɪ.nos]
Εὐριπίδης [ˌeʊ.ɾiˈpɪ.dɛs]
Εὐρυδίκη [ˌeʊ.ɾʉˈdɪ.kɛ]
Εὐρυμέδων [ˌeʊ.ɾʉˈme.dɔn]
Εὐρώπη [ˌeʊˈɾɔɔ.pɛ]
Εὐρώτας [ˌeʊˈɾɔɔ.tas]
Ἔφεσος [ˈe.phe.sos]
Ἐφιάλτης [ˌe.phɪˈjaɬ.tɛs]

Ζ, ζ

Ζάκυνθος [dˈzɐ.kʉɲ.thos]
Ζεύς [dˈzeʊs]
Ζηνός [d.zɛˈnos]
Ζήνων [dˈzɛɛ.nɔn]

Η, η

ʾΗλις [ˌɛɛ.lɪs]
ʾΗπειρος [ˈɛɛ.peɪ.ɾos]
ʿΗρα [ˈhɛɛ.ɾa]
Ἡράκλειτος [.hɛˈɾɐ.kleɪ.tos]
Ἡρακλῆς [..hɛ.ɾɐˌklɛɛs]
Ἡρερόδοτος [.heˈɾo.do.tos]
Ἡσίοδος [.heˈsɪ.ɟo.dos]
ʿΗφαιστος [ˈhɛɛ.phɐɪs.tos]

Θ, ϑ

Θαλῆς [.thɐˌlɛɛs]
Θάσος [ˈthɐ.sos]
Θεμιστοκλῆς [.the..mɪs.toˌklɛɛs]
Θεοκλύμενος [.theoˈklʉ̟.me.nos]
Θέογνις [ˈtheog.nɪs]
Θεόπομπος [.theˈo.pom.pos]
Θῆβαι [ˌthɛɛ.bɐɪ]
Θηβαῖος [.thɛˌbɐɪ.ɟos]
Θήρα [ˈthɛɛ.ɾa]
Θηραμένης [..thɛ.ɾaˈme.nɛs]
Θερμοπύλαι [..theɾ.moˈpʉ̟.lɐɪ]
Θερσίτης [.theɾˈsii.tɛs]
Θησεύς [.thɛˈseʊs]
Θεσμοφόρια [..thez.moˈpho.ɾɪ.ɟɐ]
Θεσσαλία [..thes.sɐˈlɪ.ɟa]
Θέτις [ˈthe.tɪs]
Θράκη [ˈthɾaaɪ.kɛ]
Θρασύβουλος [.thɾɐˈsʉ̟.bʊ.los]
Θουκυδίδης [..thʊ.kʉˈdɪ.dɛs]
Θούριοι [ˈthʊu.ɾɪ.ɟoɪ]
Θυέστης [.thʉ̟ˈɬes.tɛs]

Ι, ι

ʾΙάσων [.ɾˈjaa.sɔn]
ʾΙδη [ˈii.dɛ]
ʾΙθάκη [.ɾˈthɐ.kɛ]
ʾΙκαρος [ˈii.kɐ.ɾos]
ʾΙλιάς [..i.lɪˈjɐs]
ʾΙλισός [ˈii.li.sos]
ʾΙνδία [.ɪn̪ˈdɪ.ɟa]
ʾΙοκάστης [..ɪ.ɟoˈkɐs.tɛs]
ʿΙππαρχος [ˈhɪp.pɐɾ.khos]
ʿΙππίας [.hɪpˈpɪ.ɟas]
ʿΙπποκράτης [..hɪp.poˈkɾɐ.tɛs]
ʿΙππόλυτος [.hɪpˈpo.lʉ̟.tos]
ʾΙσοκράτης [..ɪ.soˈkɾɐ.tɛs]
ʾΙταλία [..ɪ.tɐˈlɪ.ɟa]
ʾΙφιγένεια [..ɪ.phɪˈge.neɪ.ɟɐ]
ʾΙων [ˈɪ.ɟɔn]
ʾΙωνία [..ɪ.ɟɔˈnɪ.ɟa]

Κ, κ

Κάδμος [ˈkɐd.mos]
Καλλίμαχος [.kɐlˈlɪ.mɐ.khos]
Καλυδών [..kɐ.lʉ̟ˈdɔɔn]
Καλυψώ [..kɐ.lʉ̟pˈsɔɔ]
Κάλχας [ˈkɐl.khas]
Καμβύσης [.kɐmˈbʉ̟.sɛs]
Καρία [.kɐˈɾɪ.ɟa]
Κάρυστος [ˈkɐ.ɾʉ̟s.tos]
Καρχηδών [..kɐɾ.khɛˈdɔɔn]
Κάστωρ [ˈkɐs.tɔɾ]
Κάϋστρος [ˈkɐʉ̟s.tɾos]
Κέκροψ [ˈke.kɾops]
Κένταυρος [ˈkɛɲ.tɐʊ.ɾos]
Κεραμεικός [.ke..ɾɐ.meɪˈkos]
Κέρβερος [ˈkeɾ.be.ɾos]
Κέρκυρα [ˈkeɾ.kʉ̟.ɾɐ]
Κηφισός [..kɛ.phiˈsos]
Κιθαιρών [..kɪ.tɐɪˈɾɔɔn]
Κίμων [ˈkii.mɔn]
Κίρκη [ˈkɪɾ.kɛ]
Κλεινίας [.kleɪˈnɪ.ɟas]
Κλεισθένης [.kleɪsˈthe.nɛs]
Κλειτοφῶν [..kleɪ.toˌphɔɔn]
Κλεομένης [.kleoˈme.nɛs]
Κλέων [ˈkleɔn]
Κλυταμνήστρα [..klʉ̟.tɐmˈnɛɛs.tɾa]
Κνωσσός [k.nɔsˈsos]
Κολχίς [.kolˈkhɪs]
Κόνων [ˈko.nɔn]
Κόρη [ˈko.ɾɛ]
Κόρινθος [ˈko.ɾɪn̪.thos]
Κρέων [ˈkɾeɔn]
Κρήτη [ˈkɾɛɛ.tɛ]
Κρίτων [ˈkɾɪ.tɔn]
Κροῖσος [ˌkɾoɪ.sos]
Κρόνος [ˈkɾo.nos]
Κύκλωψ [ˈkʉ̟.klɔps]
Κύλων [ˈkʉ̟.lɔn]
Κύπρος [ˈkʉ̟.pɾos]
Κυρήνη [.ku.ɾɛɛ.nɛ]
Κυρος [ˈkʉʉ̟.ɾos]
Κύψελος [ˈkʉ̟p.se.los]

Λ, λ

Λαέρτης [.laˈeɾ.tɛs]
Λάϊος [ˈlaaɪ.ɟos]
Λακεδαίμων [..lɐ.keˈdeɪ.mɔn]
Λακονική [.lɐ..ko.nɪˈkɛɛ]
Λάμαχος [ˈlaa.mɐ.khos]
Λάρισα [ˈlaa.ɾɪ.sɐ]
Λαύρειον [ˈlɐʊ.ɾeɪ.ɟon]

Λάχης [ˈlɐ.ɬhɛs]
Λέσβος [ˈlez.bos]
Λεωνίδας [ˌleɔˈnɪ.das]
Λῆμνος [ˌlɛɛm.nos]
Λήναια [ˈlɛɛ.nɐɪ.ɹɐ]
Λητώ [ˌlɛˈtɔɔ]
Λοκρίς [ˌloˈkɾɪs]
Λύγδαμις [ˈlʉg.dɐ.mɪs]
Λυδία [ˌlʉˈdɪ.ɹa]
Λυκάβηττος [ˌlʉˈkɐ.bɛt.tos]
Λυκία [ˌlʉˈɬɪ.ɹa]
Λυκοῦργος [ˌlʉˌkʊɾ.gos]
Λύσανδρος [ˈlʉ.sɐɲ.dɾos]
Λυσίας [ˌlʉˈsɪ.ɹas]

M, μ

Μαίανδρος [ˈmɐɪ.ɹɐɲ.dɾos]
Μακεδονία [ˌmɐ..ɬke.doˈnɪ-.ɹa]
Μαντίνεια [ˌmɐɲˈtɪ.nɐɪ.ɹa]
Μαραθών [ˌ.ɐ.ɾɐˈthɔɔn]
Μαρδόνιος [ˌmɐɾˈdo.nɪ.ɹos]
Μεδία [ˌmeˈdɪ.ɹa]
Μεγακλῆς [ˌ.me.gɐˌklɛɛs]
Μέγαρα [ˈme.gɐ.ɾɐ]
Μελέαγρος [ˌmeˈlɐɐ.gɾos]
Μένανδρος [ˈme.nɐɲ.dɾos]
Μενέλεως [ˌmeˈne.leɔs]
Μένων [ˈme.nɔn]
Μεσσήνη [ˌmesˈsɛɛ.nɛ]
Μήδεια [ˈmɛɛ.deɪ.ɹɐ]
Μῆλος [ˌmɛɛ.los]
Μίδας [ˈmɪ.das]
Μίλητος [ˈmii.lɛ.tos]
Μιλτιάδης [ˌ.mɪl.tɪˈɹɐ.des]
Μινώταυρος [ˌmɪˈnɔɔ.tɐʊ-.ɾos]
Μίνως [ˈmii.nɔs]
Μοῦσα [ˌmʊu.sɐ]
Μυκῆναι [ˌmʉˌkɛɛ.nɐɪ]
Μυρμιδόνες [ˌ.mʉɾ.mɪˈdo-.nes]
Μυσία [ˌmʉˈsɪ.ɹa]
Μυτιλήνη [ˌ.mʉ.tɪˈlɛɛ.nɛ]

N, ν

Νάξος [ˈnɐk.sos]
Ναύκρατις [ˈnɐʊ.kɾɐ.tɪs]
Ναύπακτος [ˈnɐʊ.pak.tos]
Ναυπλία [ˌnɐʊˈplɪ.ɹa]
Νεῖλος [ˌneɪ.los]
Νεμέα [ˌneˈmea]
Νεοπτόλεμος [ˌneopˈto.le.mos]
Νέστωρ [ˈnes.tɔɾ]
Νικίας [ˌniˈɬɪ.ɹas]
Νιόβη [ˌnɪˈɹo.bɛ]

Ξ, ξ

Ξανθίας [k.sɐɲˈthɪ.ɹas]
Ξανθίππη [k.sɐɲˈthɪp.pɛ]
Ξάνθιππος [kˈsɐɲ.thɪp.pos]
Ξενοφάνης [k.ˌse.noˈphɐ-.nes]
Ξενοφῶν [k.ˌse.noˌphɔɔn]
Ξέρξης [kˈseɾk.sɛs]

O, o

Οἰδίπους [ˌoɪˈdɪ.pʊs]
Ὀδυσσεύς [ˌ.o.dʉsˈseʊs]
Ὀδυσσεία [ˌ.o.dʉsˈseɪ.ɹa]
Ὀλυμπία [ˌ.o.lʉmˈpɪ.ɹa]
Ὄλυμπος [ˈo.lʉm.pos]
Ὄλυντος [ˈo.lʉɲ.tos]
Ὅμηρος [ˈho.mɛ.ɾos]
Ὀρέστης [ˌoˈɾes.tɛs]
Ὀρφεύς [ˌoɾˈpheʊs]
Ὄσσα [ˈos.sa]

Π, π

Παλαμήδης [ˌ.pɐ.lɐˈmɛɛ.dɛs]
Πάν [ˈpaan]
Παναθήναια [ˌ.pɐ.nɐˈthɛɛ-.nɐ.ɹɐ]
Πάραλος [ˈpɐ.ɾɐ.los]
Πάρις [ˈpɐ.ɾɪs]
Παρνασός [ˌ.pɐɾ.naˈsos]
Πάρνης [ˈpaɾ.nɛs]
Πάρος [ˈpɐ.ɾos]
Πασιφάη [ˌ.pɐ.sɪˈphɐɛ]
Πάτμος [ˈpɐt.mos]
Πατραί [ˌpɐˈtɾɐɪ]
Πάτροκλος [ˈpa.tɾo.klos]
Παυσανίας [ˌ.pɐʊ.sɐˈnɪ.ɹas]
Πάφος [ˈpɐ.phos]
Πειρήνη [ˌpeɪˈɾɛɛ.nɛ]
Πεισίστρατος [ˌpeɪˈsɪs.tɾɐ-.tos]
Πελοπόννησος [ˌ.pe.loˈpon-.nɛ.sos]
Πέλοψ [ˈpe.lops]
Πηλέυς [ˌpɛˈleʊs]
Πήλιον [ˈpɛɛ.lɪ.ɹon]
Πηνελόπη [ˌ.pɛ.neˈlo.pɛ]
Πενθεύς [ˌpeɲˈtheʊs]
Πέργαμον [ˈpeɾ.gɐ.mon]
Περδίκκας [ˌpeɾˈdɪɬ.kas]
Περίανδρος [ˌpeˈɾɪ.ɹɐɲ-.dɾos]
Περικλῆς [ˌ.pe.ɾɪˌklɛɛs]
Περσεύς [ˌpeɾˈseʊs]
Περσεφόνη [ˌ.peɾ.seˈpho.nɛ]
Περσική [ˌ.peɾ.sɪˈɬɛɛ]
Πειραιεύς [ˌ.peɪ.ɾɐɪˈɹeʊs]
Πίνδαρος [ˈpɪɲ.dɐ.ɾos]
Πλάταια [ˈplɐ.tɐɪ.ɹa]
Πλάτων [ˈplɐ.tɔn]
Πλούταρχος [ˈplʊu.tɐɾ-.khos]
Πλούτων [ˈplʊu.tɔn]
Πνύξ [pˈnʉks]
Πολύβιος [ˌpoˈlʉ.bɪ.ɹos]

Πολυκράτης [ˌpo.lʉ'krɐ.tɛs]
Πολυνείκης [ˌpo.lʉ'neɪ.ɬɛs]
Πολύφημος [ˌpo'lʉ.phɛ-
.mos]
Ποσειδῶν [ˌpo.seɪˌdɔɔn]
Ποτίδαια [ˌpo'tɪ.deɪ.ɟɐ]
Πρίαμος ['prɪ.ɟɐ.mos]
Πριήνη [ˌprɪ'ɛɛ.nɛ]
Πρόδικος ['pro.dɪ.kos]
Πρόκνη ['prok.nɛ]
Προκόννησος [ˌpro'kon-
.nɛ.sos]
Προμηθεύς [ˌpro.mɛ'theʊs]
Προποντίς [ˌpro.poɲ'tɪs]
Πρωταγόρας [ˌprɔ.tɐ'go-
.ɾas]
Πυθαγόρας [ˌpʉ.thɐ'go.ɾas]
Πυθώ [ˌpʉ'thɔɔ]
Πυλάδης [ˌpʉ'lɐ.dɛs]
Πύλος ['pʉ.los]

P, ρ

ʿΡαδάμανθυς [ˌɾɐ'dɐ.mɐɲ-
.thʉs]
ʿΡαμνοῦς [ˌɾɐmˌnʊus]
ʿΡέα ['ɾea]
ʿΡήγιον ['ɾɛɛ.gɪ.ɟon]
ʿΡῆσος [ˌɾɛɛ.sos]
ʿΡόδιος ['ɾo.dɪ.ɟos]
ʿΡόδος ['ɾo.dos]

Σ, σ, ς

Σαλαμινία [ˌsɐ.lɐ.mi'nɪ.ɟa]
Σαλαμίς [ˌsɐ.lɐ'miis]
Σαμοθράκη [ˌsɐ.mo'thɾaaɪ-
.ɬɛ]
Σάμος ['sɐ.mos]
Σαπφώ [ˌsɐp'phɔɔ]
Σάρδεις ['sɐɾ.deɪs]
Σαρπηδών [ˌsɐɾ.pɛ'dɔɔn]
Σειληνός [ˌseɪ.lɛ'nos]
Σελινοῦς [ˌse.liˌnʊus]
Σεμέλη [ˌse'me.lɛ]
Σῆστος [ˌsɛɛs.tos]
Σίβυλλα ['sɪ.bʉl.lɐ]
Σίγειον ['sɪ.geɪ.ɟon]
Σίγεον ['sii.geon]
Σιδών [ˌsi'dɔɔn]
Σικελία [ˌsɪ.ke'lɪ.ɟa]
Σικυών [ˌsɪ.kʉ'ɬɔɔn]
Σιμωνίδης [ˌsɪ.mɔ'nɪ.dɛs]
Σιτάλκης [ˌsi'tɐl.ɬɛs]
Σκάμανδρος [s'kɐ.mɐɲ-
.dɾos]
Σκυθική [sˌ.kʉ.thɪ'ɬɛɛ]
Σόλων ['so.lɔn]
Σοφοκλῆς [ˌso.phoˌklɛɛs]
Σούνιον ['sʊu.nɪ.ɟon]
Σοῦσα [ˌsʊu.sɐ]
Σπάρτη [s'pɐɾ.tɛ]
Στησίχορος [s.tɛ'sɪ.kho.ɾos]
Στρυμών [s.tɾʉ'mɔɔn]
Στύξ [s'tʉks]
Σύβαρις ['sʉ.bɐ.ɾɪs]
Συράκουσαι [ˌsʉ'ɾaa.kʊ.sɐɪ]
Συρία [ˌsʉ'ɾɪ.ɟa]
Σφακτηρία [s.phɐk.tɛ'ɾɪ.ɟa]
Σφίγξ [s'phɪŋks]
Σωκράτης [ˌsɔ'kɾɐ.tɛs]

T, τ

Ταίναρος ['tɐɪ.nɐ.ɾos]
Ταλθύβιος [ˌtɐl'thʉ.bɪ.ɟos]
Τάναγρα ['tɐ.nɐ.gɾɐ]
Τάνταλος ['tɐɲ.tɐ.los]
Τάρας ['tɐ.ɾas]
Τάρταρος ['tɐɾ.tɐ.ɾos]
Ταΰγετον [ˌta'ɬʉ.ge.ton]
Τεγέα [ˌte'gea]
Τειρεσίας [ˌteɪ.ɾe'sɪ.ɟas]
Τέκμησσα ['teɬ.mes.sɐ]
Τελαμών [ˌte.lɐ'mɔɔn]
Τέμπη ['tem.pɛ]
Τένεδος ['te.ne.dos]
Τηλέμαχος [ˌtɛ'le.mɐ.khos]
Τήλεφος ['tɛɛ.le.phos]
Τῆνος [ˌtɛɛ.nos]
Τηρεύς [ˌtɛ'ɾeʊs]
Τεῦκρος [ˌteʊ.kɾos]
Τίγρης ['tɪ.gɾɛs]
Τιμολέων [ˌti.mo'leɔn]
Τίμων ['tii.mɔn]
Τίρυνς ['tii.ɾʉɲs]
Τισσαφέρνης [ˌtɪs.sɐ'pheɾ-
.nɛs]
Τιτάν [ˌti'taan]
Τμῶλος [tˌ.mɔɔ.los]
Τολμίδης [ˌtol'mɪ.dɛs]
Τραχίς [ˌtɾa'ɬkhiis]
Τριπτόλεμος [ˌtɾɪp'to.le-
.mos]
Τροιζήν [ˌtɾoɪd'zɛɛn]
Τροία [ˌtɾo'ɪ.ɟa]
Τρωάς [ˌtɾɔ'ɐs]

Y, υ

ʿΥπέρβολος [ˌhʉ.'peɾ.bo.los]

Φ, φ

Φαίακες ['phɐɪ.ɟa.ɬkes]
Φαίδρα ['phɐɪ.dɾa]
Φαίδων ['phɐɪ.dɔn]
Φαρνάβαζος [ˌphɐɾ'nɐ.bɐd-
.zos]
Φειδίας [ˌpheɪ'dɪ.ɟas]
Φειδιππίδης [ˌpheɪ.dɪp'pɪ-
.dɛs]
Φίλιππος ['phɪ.lɪp.pos]
Φιλοκτήτης [ˌphɪ.lok'tɛɛ-
.tɛs]
Φοινίκη [ˌphoɪ'nii.ɬkɛ]
Φοῖνιξ [ˌphoɪ.niks]
Φορμίων [ˌphoɾ'mɪ.ɟɔn]

Φρυγρία [.phɾʁˈgɾɪ.ja]
Φυλή [.phʁˈlɛɛ]
Φωκίς [.phɔˈkɪs]
Φωκίων [.phɔˈkɪ.jɔn]

Χ, χ

Χαιρεφῶν [.khɐɪ.ɾeˌphɔɔn]
Χαιρώνεια [.khɐɾˈɾɔɔ.neɪ.jɐ]
Χαλκηδών [.khɐlˈkɛˈdɔɔn]
Χαλκιδική [.khɐl.kɪ.dɾˈkɛɛ]
Χαλκίς [.khɐlˈkɪs]
Χαρικλῆς [.khɐ.ɾɪˌklɛɛs]
Χαρμίδης [.khɐɾˈmɪ.dɛs]
Χάρυβδις [ˈkhɐ.ɾʁb.dɪs]
Χάρων [ˈkhɐ.ɾɔn]
Χερσόνησος [.kheɾˈso.nɛ-.sos]
Χίος [ˈkhɪ.jos]

Ψ, ψ

Ψαμμήτιχος [p.sɐmˈmɛɛ.tɪ-.khos]

Ω, ω

Ὡρωπός [.ɔ.ɾɔˈpos]

Famous sayings

7.2. Here is a list of about a hunded famous sayings in classical Greek, although a few do not belong to that period (5-4th *c*). They are often used when speaking English (and other languages).

᾽Αγεωμέτρητος μηδεὶς εἰσίτω [.ɐ.gɐɔˈme.tɾɛ.toz· .mɛˌdeɪ .seɾˈsɪ.tɔ˙] (Let no one ignorant of geometry enter)
᾽Αετοῦ γῆρας, κορυδοῦ νεότης [.ae̯ˌtʊu ˌgɛɛ.ɾɐs.˙¦ .ko.ɾʁˌdʊu .neˈo.tɛs˙] (An eagle's old age (is worth) a sparow's youth)
᾽Αεὶ ὁ θεὸς γεωμετρεῖ [.ɐ_eɪ· .ho.the_oz· .gɐɔ.meˌtɾeɪ˙] (God always geometrizes)
᾽Αεὶ κολοιὸς παρὰ κολοιῷ ἰζάνει [.ɐ_eɪ˙ .ko.loɪ_jos.˙¦ .pɐ..ɾɐ.ko.loɪˌjɔɔɪ· .hɪdˈzɐ.neɪ˙] (A jackdaw is always found near a jackdaw)
᾽Αεὶ Λιβύη φέρει τι καινόν [.ɐ_eɪ˙ .lɪˈbʁ.ɰɛ· ˈphe.ɾeɪ ..tɪ.kɐɪˈnon˙] (Libya always bears something new)
Αἰὲν ἀριστεύειν [.ɐɪ_je.nɐ .ɾɪsˈteʊ.ɷeɪn˙] (Always to be the best)
᾽Ανάγκᾳ δ᾽ οὐδὲ θεοὶ μάχονται [.ɐˈnɐŋ.kaɪ˙ .dʊ_de .the_oɪ·¦ ˈmɐ.khoɲ.tɐɪ˙] (Not even the gods fight necessity)
᾽Ανδρῶν γὰρ ἐπιφανῶν πᾶσα γῆ τάφος [.ɐnˌdɾɔɔŋ· .gɐ.ɾe..pɪ.phɐˌnɔɔn.˙ ˌpaa.sɐ ˌgɛɛ˙ ˈtɐ.phos˙] (Illustrious men have the whole earth for their tomb)
᾽Ανερρίφθω κύβος [..ɐ.neɾˈɾiip.thɔ ˈkʁ.bos˙] (Let the die be cast)
Ἄνθρωπος μέτρον [ˈɐn.thɾɔ.pos· ˈme.tɾon˙] (Man is the measure [of all things])
Ἅπαξ λεγόμενον [ˈhɐ.pɐks· .leˈgo.men..on˙] (A word that only occurs once)
᾽Από μηχανῆς θεός [.ɐ..po.mɛ.khɐˌnɛɛs .theˈos˙] (God from the machine)
᾽Από τοῦ ἡλίου μετάστηθι [.ɐ..po.tʊ.hɛˈlɪ.jʊ· .meˈtɐs.tɛ..thɪ˙] (Stand a little out of my sun)
Ἄριστον μὲν ὕδωρ [ˈɐ.ɾɪs.tom _men.˙ ˈhʁ.dɔɾ˙] (Greatest however is water)
Αὐτὸς ἔφα [.ɐʊ..toˈse.pha˙] (He himself said it)

Βασιλεία τῶν οὐρανῶν [..bɐ.sɪˈleɪ.ja· .tɔ..nʊ.ɾɐˌnɔɔn˙] (Kingdom of the heavens)
Βρῶμα θεῶν [ˌbɾɔɔ.mɐ .theˌɔɔn˙] (Food of the gods)

Γηράσκω δ’ αἰεὶ πολλὰ διδασκόμενος [.ɡɛˈrɐs.kɔ˙.¦ .dɐɪ_jeɪ .pol_lɐ .dɪ.dɐsˈko.me.nos˙.] (I grow old always learning many things)

Γλαῦκ’ ’Αθήναζε [ˎɡlɐʊ .kɐˈthɛɛ.nad.ze˙.] (Bring owls to Athens)

Γνῶθι σεαυτόν [ɡˎnɔɔ.thɪ .seɐuˈton˙.] (Know yourlself)

Γόρδιος δεσμός [ˈɡor.dɪ.joz .dezˈmos˙.] (Gordian knot)

Δεῖμος καὶ Φόβος [ˎdeɪ.mos .kɐɪˈpho.bos˙.] (Horror and fear)

Δέσποτα, μέμνεο τῶν ’Αθηναίων [ˈdes.po.tɐ· ˈmem.neo ..tɔ.nɐ.thɛˈnɐɪ.jɔn˙.] (Master, remembrer the Athenians)

Διαίρει καὶ βασίλευε [.dɪˈjɐɪ.reɪ˙ ..kɐɪ.bɐˈsɪ.leʊ.ɯe˙.] (Divide and rule)

Διπλοῦν ὁρῶσιν οἱ μαθόντες γράμματα [.dɪˎpluun .hoˎrɔɔ.sɪn· ..hoɪ.mɐˈthon.tez ˈɡrɐm-.mɐ.tɐ˙.] (Those who know the letters see the double)

Δῶς μοι πᾶ στῶ καὶ τὰν γᾶν κινάσω [ˎdɔɔz.moɪ ..paɪsˎtɔɔ˙ ..kɐɪ.taŋˎɡaaŋ .kiˈnaa.sɔ˙.] (Give me somewhere to stand, and I will move the earth)

’Εγὼ δὲ ὀφείλω λέγειν τὰ λεγόμενα [.e..ɡɔ.deoˈpheɪ.lɔ ˈle.ɡeɪn· ..tɐ.leˈɡo.me..nɐ˙.] (I must tell what I’m told)

Εἷς οἰωνὸς ἄριστος, ἀμύνεσθαι περὶ πάτρης [.heɪ.soɪ.jɔ_no· ˈsɐ.rɪs.tos˙.¦ .ɐˈmʉʉ.nes.thɐɪ˙ ..pe.rɪˈpɐ.trɛs˙.] (Only one thing is excellent: to fight for one’s country)

’Εκ τῶν ὧν οὐκ ἄνευ [..ek.tɔnˎhɔɔn· .ʊˈkɐ.neʊ˙.] (Things which one cannot be without)

῞Εν οἶδα ὅτι οὐδὲν οἶδα [..heˎnoɪ.dɐ˙. ..ho.tɪʊ_den˙. ˎoɪ.dɐ˙.] (I know one thing, that I know nothing)

῎Ενθεν μὲν Σκύλλην ἑτέρωθι δὲ δῖα Χάρυβδις [ˈen.them .mensˈkʉl.lɛn.˙¦ .heˈte.rɔ.thɪ .deˎdii.jɐ ˈkhɐ.rʉb.dɪs˙.] (On one side lay Scylla and on the other divine Charybdis)

Εὕρηκα! [¡ˈheʊ.rɛ..kɐ] (I have found it)

Ζῷον δίπουν ἄπτερος [ˎzɔɔɪ.jon· ˈdɪ.pʊn.˙ ˈap.te..ros˙.] (Two-legged wingless animal)

Ζῷον πολιτικόν [ˎzɔɔɪ.jom .po..lɪ.tɪˈkon˙.] ([Man is by nature a] political animal)

῏Ηλθον, εἶδον, ἐνίκησα [ˎɛɛl.thon˙.¦ ˎeɪ.don˙.¦ .eˈnɪ.kɛ.sɐ˙.] (I came, I saw, I conquered)

῎Η τάν, ἢ ἐπὶ τᾶς [.ɛ_taan.˙¦ .ɛe..pɪˎtaas˙.] (Either with it [your shield], or on it)

῾Η φύσις οὐδὲν ποιεῖ ἅλματα [.hɛˈphʉ.sɪs· .ʊ_dem .poɪˎjeɪ· ˈhɐl.mɐ..tɐ˙.] (Nature does not make jumps)

Θάλασσα καὶ πῦρ καὶ γυνή· κακὰ τρία [ˈthɐ.lɐs.sɐ· .kɐɪˎpʉʉr.˙ .kɐɪ.ɡʉˈnɛɛ·| ¡.kɐ_kɐ ˈtrɪ.jɐ˙.] (Sea and fire and woman: three evils)

Θάλαττα, θάλαττα! [ˈthɐ.lɐt.tɐ· ¡ˈthɐɐ.lɐt.tɐɐ˙.] (The Sea! The Sea!)

Θάνατος οὐδὲν διαφέρει τοῦ ζῆν [ˈthɐ.nɐ.tos.˙ .ʊ..den.dɪ.jɐˈphe.reɪ· .tʊdˎzɛɛn˙.] (Death is no different than life)

’Ιατρέ, θεράπευσον σεαυτόν! [..ɪ.jaˈtre· ¡.theˈrɐ.peʊ.son .seɐʊˈton˙.] (Physician, take care of yourself!)

Καὶ σὺ τέκνον; [¿.kɐɪ_sʉ.˙. ¿ˈtek.non·] (You, too, child?)

Κακὸς ἀνὴρ μακρόβιος [ˌkɐ_ko ˌsɐ_nɛɛr· ˌmɐˈkro.bɪˌjos] (A bad man lives long)
Κακοῦ κόρακος κακὸν ᾠόν [ˌkɐˌkʊu ˈkoˌɾɐˌkosˑ ˌkɐ_ko nɔɾˈjonˑ] (From a bad raven, a bad egg)
Καλλίστῃ [ˌkɐlˈlɪsˌtɛɪ] (To the most beautiful)
Κρῆτες ἀεὶ ψεῦσται [ˌkɾɛɛ.teˑ ˌˌsɐ.ɛɪpˌseʊs.tɐɾˑ] (Cretans always lie)
Κτῆμα ἐς ἀεί [kˌtɛɛmɐɐ sɐˈɛɾˑ] (Possession for eternity)
Κύριε ἐλέησον [ˈkɯɯ.ɾɪˌje ˈlɛɛ.sonˑ] (Lord, have mercy)

Λάθε βιώσας [ˈlɐ.theˑ ˌbɪˈjɔɔ.sasˑ] (Live hidden)
Λέγειν τὰ λεγόμενα [ˈlɐ.theˑ ˌbɪˈjɔɔ.sasˑ] (To report reports)

Μέτρον ἄριστον [ˈmeˌtɾoˑ ˈnɐˌɾɪsˌˌtonˑ] (Moderation is best)
Μὴ μοῦ τοὺς κύκλους τάραττε [ˌmɛɛˌmʊ ˌtʊsˈkʉˌklʊsˑ ˈtɐˌɾɐtˌteˑ] (Don't disturb my circles)
Μῆλον τῆς Ἔριδος [ˌmɛɛˌloɲ ˌtɛˈseˌɾɪˌˌdosˑ] (Apple of Discord)
Μολὼν λαβέ! [ˌˌmoˌlɔɔn ˌlɐˈbeˑ] (Come take them)
Μυστήριον τῆς πίστεως [ˌmʉsˈtɛɛˌɾɪˌjonˑ ˌtɛsˈpɪsˌteɔsˑ] (Mystery of faith)

Ναὶ ναί, οὔ οὔ [ˌˌnɐɪˈnɐɪˑ¦ ˌˌʊˈʊuˑ] (Yes yes, no no)
Νενικήκαμεν [ˌˌneˌniˈkɛɛˌkɐˌˌmenˑ] (We have won)
Νίψον ἀνομήματα μὴ μόναν ὄψιν [ˈnɪpˌso ˌˌneˌnoˈmɛɛˌmɐˌtɐˑ¦ ˌˌmɛˈmoˌna ˈnopˌsɪnˑ] (Wash the sins, not only the face)

Ξύλινον τεῖχος [kˈsʉˌlɪˌnoɲ ˌteɪˌkhosˑ] (Wooden defensive wall)

Ὁ ἄνθρωπος φύσει πολιτικὸν ζῷον [ˌhoˈɐɲˌthɾɔˌposˑ ˈphʉˌseɪˑ ˌˌpoˌliˌtɪ_koɲˑ ˈzɔɔˌjonˑ] (Man is by nature a political animal)
Ὁ σῴζων ἑαυτὸν σωθήτω [ˌhoˈsɔɔɪdˌzɔn ˌheʊˌtoɲˑ ˌsɔˈthɛɛˌtɔˑ] (He who saves himself may be saved)
Οἶνοψ πόντος [ˌoɪˌnopsˑ ˈpoɲˌtosˑ] (Wine dark sea)
Ὅπερ ἔδει δεῖξαι [ˈhoˌpe ˈɾeˌdeɪˑ ˌdeɪkˌsɐɪˑ] (What was required to be proved)
Οὐ φροντὶς Ἱπποκλείδῃ [ˌˌʊˌphɾoɲ_tɪs ˌhɪpˌpoˈkleɪˌdɛɪˑ] (Hippocleides doesn't care)
Οὐκ ἂν λάβοις παρὰ τοῦ μὴ ἔχοντος [ˌˌʊˌkɐnˈlɐˌboɪsˑ ˌpɐˌˌɾɐˌtʊˌmɛˈeˌkhoɲˌˌtosˑ] (You can't get blood out of a stone)
«Οὖτις» ἐμοί γ' ὄνομα [ˈˌʊuˌtɪˑˈ ˌseˌmoɪˈgoˌnoˌˌmɐˑ] (My name is 'Nobody')

Πάθει μάθος [ˈpɐˌtheɪ ˈmɐˌthosˑ] (Learning through suffering)
Πάντα ῥεῖ ὡς ποταμός [ˌˈpɐɲˌtɐ ˌɾeɪˑ¦ ˌˌhɔsˌpoˌtɐˈmosˑ] (Everything flows like a river)
Πάντοτε ζητεῖν τὴν ἀλήθειαν [ˈpɐɲˌtoˌted ˌzɛˌteɪɲ ˌtɛˌnɐˈlɛɛˌtheɪˌjɐnˑ] (Ever seeking the truth)
Πίστις, ἐλπίς, ἀγάπη [ˈpɪsˌtɪsˑ¦ ˌelˈpɪsˑ¦ ˌɐˈgɐˌpɛˑ] (Faith, hope, and love)
Πόλεμος πάντων μὲν πατήρ ἐστι [ˈpoˌleˌmosˑ ˈpɐɲˌtɔm ˌmemˌpɐˈtɛɛˌɾesˌtɪˑ] (War is the father of all)
Πύξ, λάξ, δάξ [ˈpʉksˑ¦ ˈlɐksˑ¦ ˈdɐksˑ] (With fists, knicks, and bites)

Ῥοδοδάκτυλος Ἠώς [ˌˌɾoˌdoˈdɐkˌtʉˌlosˑ ˌɛˈɔɔsˑ] (Rosy-fingered Dawn)

Σπεῦδε βραδέως [sˌpeʊ̯.deˑ ˌbɾɐˈdeɔsˑ] (Hasten slowly)
Σὺν ᾽Αθηνᾷ καὶ χεῖρα κίνει [ˌˌsʉ̟.neˌthɛˌnaaɾ· ˌkɐɪˌkheɪ̯ˌɾɐ· ˈkiiˌneɪˑ] (Along with Athena, move also your hand)

Τὰ πάντα ῥεῖ καὶ οὐδὲν μένει [ˌtɐˈpɐɲˌtɐ ˌɾeɪˑ¦ ˌˌkɐɪ̯ˌjʊˌˌdemˈmeˌneɪˑ] (Everything flows, nothing stands still)
Τί δύσκολον; Τὸ ἑαυτὸν γνῶναι [ˌʔˌˌtɪˈdʉ̟sˌkoˌˌlonˑ| ˌˌtoˌɦeɐʊ̯_toŋg ˌnɔɔˌnɐɪˑ] (What is hard? To know thyself)
Τί εὔκολον; Τὸ ἄλλῳ ὑποτίθεσθαι [ˌʔˈtɪ ˈeʊ̯ˌkoˌˌlonˑ| ˌtoˈɐlˌlɔɪˑ ˌˌɦʉ̟ˌpoˈtɪˌthesˌˌthɐɪˑˌ] (What is easy? To advise another)
Τί πρότερον γεγόνοι; Νὺξ, ἢ ἡμέρα; [ˌʔˌˌtɪˈˈpɾoˌteˌˌɾoŋ ˌgeˈgoˌnoɪˑ| ˌʔˈnʉ̟ksˑ ˌʔˌˌɛˌɦɛˈmeˌɾaˑ] (Which is older? Day or night?)
Τί τάχιστον; Νοῦς. Διὰ παντὸς γὰρ τρέχει [ˌʔˌˌtɪˈtɐˌkhɪsˌˌtonˑ| ˈnʊusˑ| ˌdɪˌˌjɐˌpɐɲ_tosˑ ˌˌgɐɾˈtɾeˌkheɪˑ] (What is the fastest? The mind. It travels through everything)
Τὸ γὰρ ἡδύ, ἐὰν πολύ, οὐ τί γε ἡδύ [ˌto_gɐɾ ˌhɛˈdʉ̟ˑ| ˌe_ɐm ˌpoˈlʉ̟ˑ| ˌʊˈtɪ ˌgeˌɦɛˈdʉ̟ˑ] (A sweet thing tasted too often is no longer sweet)
Τὸ δὶς ἐξαμαρτεῖν οὐκ ἀνδρὸς σοφοῦ [ˌto_dɪˌseƙ ˌˌsɐˌmɐɾˌteɪn· ˌˌʊˌkɐɲ_dɾos ˌsoˌphʊuˑ] (To commit the same sin twice is not [a sign] of a wise man)
Τὸ πεπρωμένον φυγεῖν ἀδύνατον [ˌˌtoˌpeˌpɾɔˈmeˌnom ˌphʉ̟ˌgeɪ ˌnɐˈdʉ̟ˌnɐˌtonˑ] (It's impossible to escape from what is destined)

Υἱὸς μονογενής [ˌhʉ̟ɪ̯_joz ˌmoˌˌnoˌgeˈnɛɛsˑ] (Only-begotten son)
Ὕστερον πρότερον [ˈhʉ̟sˌteˌɾom ˈpɾoˌteˌˌɾonˑ] (The latter one first)

Φοινικήϊα γράμματα [ˌˌphoɪˌniˈƙɛɛɪˌjɐ ˈgɾɐmˌmɐˌˌtɐˑ] (Phoenician letters)
Φρονεῖν γὰρ οἱ ταχεῖς οὐκ ἀσφαλεῖς [ˌphɾoˌneɪŋ ˌˌgɐɾˌhoɪˌtɐˌkheɪs· ˌʊˌkɐsˌphɐˌleɪsˑ] (Those who make quick decisions are not safe)

Χαλεπὰ τὰ καλά [ˌˌkhɐˌleˌpɐ· ˌˌtɐˌkɐˈlɐˑ] (Beautiful things are difficult [to attain])

Ψυχῆς ἰατρεῖον [pˌsʉ̟ˌkhɛɛ ˌsiˌjaˌtɾeɪˌjonˑ] (Hospital of the soul).

Some onomatopoeias

βαύ βαύ... /ˌʌˈbau ˈbau/ [ˌʌˈbɐʊ ˈbɐʊ] (the noise of a dog)
βῆ βῆ... /ˌʌˌbeː ˌbeː/ [ˌʌˌbɛɛ ˌbɛɛ] (the noise of a sheep, which, today, would sound quite incorrectly '[ˈvi ˈvi]')
βρεκεκεκὲξ κοὰξ κοάξ... /ˌʌbrekeke_keks ko_aks koˈaks/ [ˌʌbɾeˌˌkeˌkeˌƙeƙsˑ ˌkoˌɐksˑ ˌkoˌɐks] (the noise of a frog)

Interjections

αἴ αἰ! /ˌʌˈai ˌai/ [ˌʌˈɐɪ ˈjɐɪ]
αἴ αἴε! /ˌʌˈai ˈaie/ [ˌʌˈɐɪ ˈjɐɪ.je]
αἰαῖ! /ˌʌaiˌai/ [ˌʌ.ɐɪˌjɐɪ]
αἰβοῖ! /ˌʌaiˌboi/ [ˌʌɐɪˌboɪ]
ἀλαλά! /ˌʌalaˈla/ [ˌʌ..ɐ.lɐˈlɐ]
ἀλαλαί! /ˌʌalaˈlai/ [ˌʌ..ɐ.lɐˈlɐɪ]
ἀλαλαλαί! /ˌʌalalaˈlai/ [ˌʌ..ɐ..lɐ.lɐˈlɐɪ]
ἀππαπαῖ! /ˌʌappaˌpai/ [ˌʌ..ɐp.pɐˌpɐɪ]
ἀττατταί! /ˌʌtaˈtai/ [ˌʌ.tɐˈtɐɪ]
βᾶ! /ˌʌˌba/ [ˌʌˌbɐ]
βαβαί! /ˌʌbaˈbai/ [ˌʌ.bɐˈbɐɪ]
βοῖ! /ˌʌˌboi/ [ˌʌˌboɪ]
ἔ! /ˌʌˈe/ [ˌʌˈe]
ἐέ! /ˌʌeˈeː/ [ˌʌ.eˈɛɛ]
εἶα! /ˌʌˌeiaː/ [ˌʌˌeɪ.ja]
ἐλελεῦ! /ˌʌeleˌleu/ [ˌʌ..e.leˌleʊ]
εὖα! /ˌʌˌeua/ [ˌʌˌeʊ.ɯɐ]
εὐαί! /ˌʌeuˈai/ [ˌʌ.eʊˈwɐɪ]
εὐαῖ! /ˌʌeuˌai/ [ˌʌ.eʊˌwɐɪ]
εὐάν! /ˌʌeuˈan/ [ˌʌ.eʊˈwɐn]
εὐοί! /ˌʌeuˈoi/ [ˌʌ.eʊˈwoɪ]
εὐοῖ! /ˌʌeuˌoi/ [ˌʌ.eʊˌwoɪ]
εὖγε! /ˌʌˌeuge/ [ˌʌˌeʊ.ge]
ἰαί! /ˌʌiˈai/ [ˌʌ.ɪˈjɐɪ]
ἰαῖ! /ˌʌiˌai/ [ˌʌ.ɪˌjɐɪ]
ἰή! /ˌʌiˈeː/ [ˌʌ.ɪˈjɛɛ]
ἰού! /ˌʌiˈuu/ [ˌʌ.ɪˈjʊu]
ἰοῦ! /ˌʌiˌuu/ [ˌʌ.ɪˌjʊu]
ἰώ! /ˌʌiˈoː/ [ˌʌ.ɪˈjɔɔ]
μῦ! /ˌʌˌmɯː/ [ˌʌˌmɯɯ]
νὴ τὸν Δία! /ˌʌneːtonˈdia/ [ˌʌ..nɛ.tonˈdɪ.jɐ]
οἴ! /ˌʌˈoi/ [ˌʌˈoɪ]
οἶ! /ˌʌˌoi/ [ˌʌˌoɪ]
οἴμοι! /ˌʌˈoimoi/ [ˌʌˈoɪ.moɪ]
ὀτοτοῖ! /ˌʌotoˌtoi/ [ˌʌ..o.toˌtoɪ]
παπαῖ! /ˌʌpaˌpai/ [ˌʌ.pɐˌpɐɪ]
τατταί! /ˌʌtaˈtai/ [ˌʌ.tɐˈtɐɪ]
τοτοῖ! /ˌʌtoˌtoi/ [ˌʌ.toˌtoɪ]
φεῦ! /ˌʌˌpheu/ [ˌʌˌpheʊ]
φῦ! /ˌʌˌphɯː/ [ˌʌˌphɯɯ]
ψόφ! /ˌʌpˈso/ [ˌʌpˈso]
ὦ! /ˌʌˈoː/ [ˌʌˈɔɔ]
ὦ! /ˌʌˌoː/ [ˌʌˌɔɔ]
ὤμοι! /ˌʌˈoːmoi/ [ˌʌˈɔɔ.moɪ]
ὦ πόποι! /ˌʌoːˈpopoi/ [ˌʌ.ɔˈpo.poɪ]

8.
Diachronic phonopses

8.0.1. What follows is the result of careful considerations based on extensive comparative records between languages that we have described (including some of their variants), as well as on their repercussions found in loanwords in –and from– those same languages (considering alternations and spelling uncertainties).

Of course, we have also taken into due account modern and present-day reflexes, in terms of substratum characteristics, which are to be found in the areas where the relevant languages were once spoken.

Linguistic *reconstruction*, if undertaken with appropriate instruments, should not be limited merely to vocabulary or morphosyntax. In fact, the rigorous direct phonemic and phonetic experience of the numerous living languages treated in our *Natural Phonetics & Tonetics* and those in the series on *Language Pronunciation & Accent*s, certainly makes it possible to sketch an outline for these other languages, in conjunction with the specialists' work.

These phonopses have been filtered, through a way of 'seeing' their phonic systems truly 'from the inside', and directly bringing them back to life in a fond way, instead of merely considering them simply theoretically, and more out of duty than for fun.

Those who do not deem it proper to accept the results proposed in the following phonopses of tongues of the past are positively at liberty not to credit what will be said.

The fact remains, however, that such hypotheses, including our inferences on *intonation*, might prove to be anything but fanciful ideas. It is no longer absurd, in fact, to consider the possibility of retrieving sound documents from the past, which can turn out to be useful for empirical analyses and tests…

Likewise, as long as someone is not in a position to prove them wrong, these phono-tonically detailed reconstructions should remain valid and reliable.

8.0.2. It would equally be interesting to apply the (segmental and suprasegmental) indications given to the reading and dramatizing of ancient texts.

This way, they would at least not be the predictable lackluster renditions of different texts belonging to totally different languages, all invariably done with the same sounds (of one's own personal variant of an official language) and artificial and contrived intonation patterns, so as to put to sleep even well-intentioned listeners.

By means of computerized text-to-speech synthesis, among others, it will be possible to credibly give a(n almost authentic) voice to those texts, thus considerably

rejuvenating the same old, soporific, academic lectures.

For dead languages, different scholars (and reconstructors) present phonemic systems that sometimes are only partially different, but at other times strikingly different indeed – even conflicting.

Such 'detailed' proposals as those presented here should be interpreted in the right spirit… until we are able to travel back in time, by going to and fro at will, bringing good recording tools and –above all– using an excellent time-machine, which could enable us to give definitive answers!

After analyzing so many actual systems of living languages, as said, a certain sensitivity towards fine nuances may be developed almost naturally, possibly (but not necessarily) with a certain bent for symmetry, which so many living languages already show.

Thus, the mapping of vocoids in the vocograms, the compilation of consonant tables, even the assessment of tones and intonations, can be considered to be fairly precise as to their possible realizations. In fact, they are based on an experience of several years (with reference to the author, who began to 'play' with the sounds of languages even before birth, especially for paraphonics and tonetics, of course, as everyone can naturally do, but adding systematic studies with the best books available when he was 12 of age).

Of course, it goes without saying, these descriptions are also based on careful consideration of the actual data that many present-day languages have been reconstructed, with regard to the dead languages from which they derive.

All in all, we are dealing with an experience which is centuries-old, or even thousands of years old (with reference to the languages themselves).

8.0.3. In a sense, the Neogrammarians' comparative method is thus accomplished, by acquiring entirety and naturalness. After all, we restate here, they can be safely held as reliable, as long as recordings can be produced, ascribable to exactly the same languages, which might reveal differences compared to what is presented here.

But, if such languages were actually synthesized according to the indications given, we would get more than plausible results. After all, no-one can be 'sentenced' without 'evidence' to prove different facts… The widespread and unshakeable slapdash way of doing things which distinguishes much of the academic 'tradition' is definitely worse…

Unfortunately, the 'standard' practice, for those who write linguistics –or even phonetics– books is unashamedly more approximate than what has been done in this section (about the phono-tonetic reconstruction of dead languages), based on necessarily indirect data and on 'sound' common sense about *sounds*.

8.0.4. The following phonopses show only the principal realizations of vowels and consonants, omitting the more general (practically almost universal) ones, but indicating the more particular ones.

Early Proto-Indoeuropean

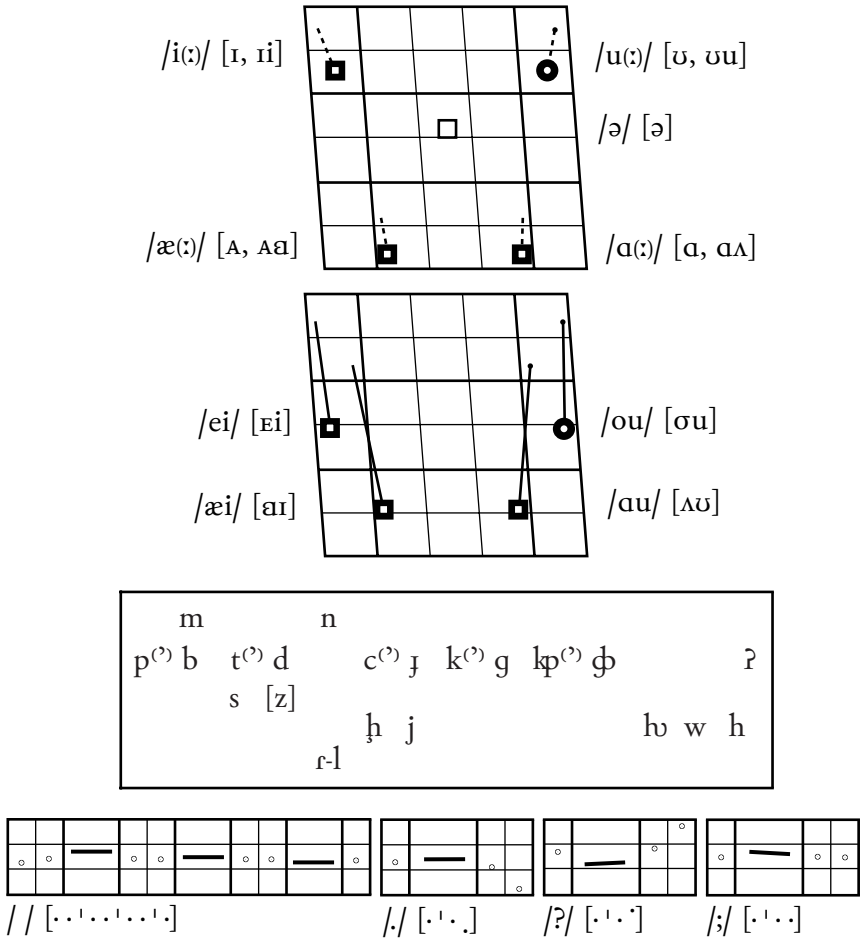
8.1. Together with its later stage (given in the following section), this dead language constitutes the principal sources for the various IE languages, which developed at different times (and in different regions). Only by positing two separate phases, can the previous very different proposals of reconstruction provide otherwise impossible answers.

The early stage only had five short vowels (including /ə/ [ə]) and four long vowels (actually narrow diphthongs, with the same starting points as the short vowels), and four partially different phonemic diphthongs.

As for its consonants, we notice the opposition between 'aspirated' and ejective consonants. The voiceless stops are actually '[Ch]', not really '/Ch/', while they also have actual ejective counterparts, /C'/ [C'], shown, in the table, as /C(ʾ)/. They included the following velar-bilabial consonants, /kp, kp', ɡb/ [kph, kp', ɡb].

In addition it had three 'laryngeal' approximants (two of them with supralaryngeal colorings, /ḫ, h, hu̯/ [ḫ, h, hu̯]), also the occurrence of /əm, ən, ər, əl/ [m̥, n̥, r̥, l̥], and of the assimilatory taxophone /s/ [z].

fig 8.1. Early Proto-Indoeuropean.



Late Proto-Indoeuropean

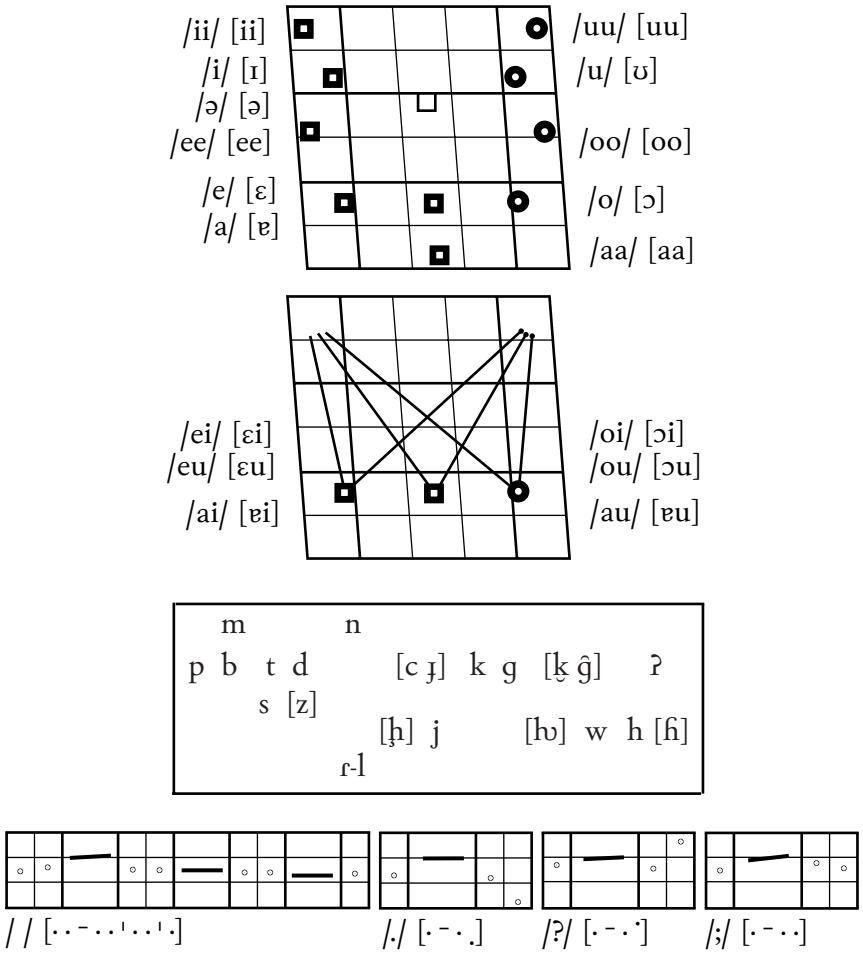
8.2. It had six short vowels (including /ə/ [ə]) and five long vowels (the two series having different timbres). In addition, it had six phonemic diphthongs.

As for its consonants, especially noteworthy is the opposition between /Ç, Çh, Ç, Çh/ [Ç, Çh, Ç, Çɦ] for stops. There were /Cj, Cw/ sequences for /kj, khj, gj, ghj, hj/ [c, ch, ɟ, ɟɦ, ɧ] and /kw, khw, gw, ghw, hw/ [k̟, k̟h, ĝ, ĝɦ, hʊ]. Also the occurrence of /əm, ən, ər, əl/ [m̩, n̩, ɾ̩, l̩], and of the assimilatory taxophone /s/ [z], and of [ɦ] for /Çh/ [Çɦ].

It had a normal stress accent (which could be distinctive as a consequence of its being free), which was of a rather high-pitched nature but did not contrast with a low-pitched one.

However, this tonetic feature acted as an embryo for the word-tonemes (or pich accents) which would subsequently develop in a number of IE languages.

fig 8.2. Late Proto-Indoeuropean.

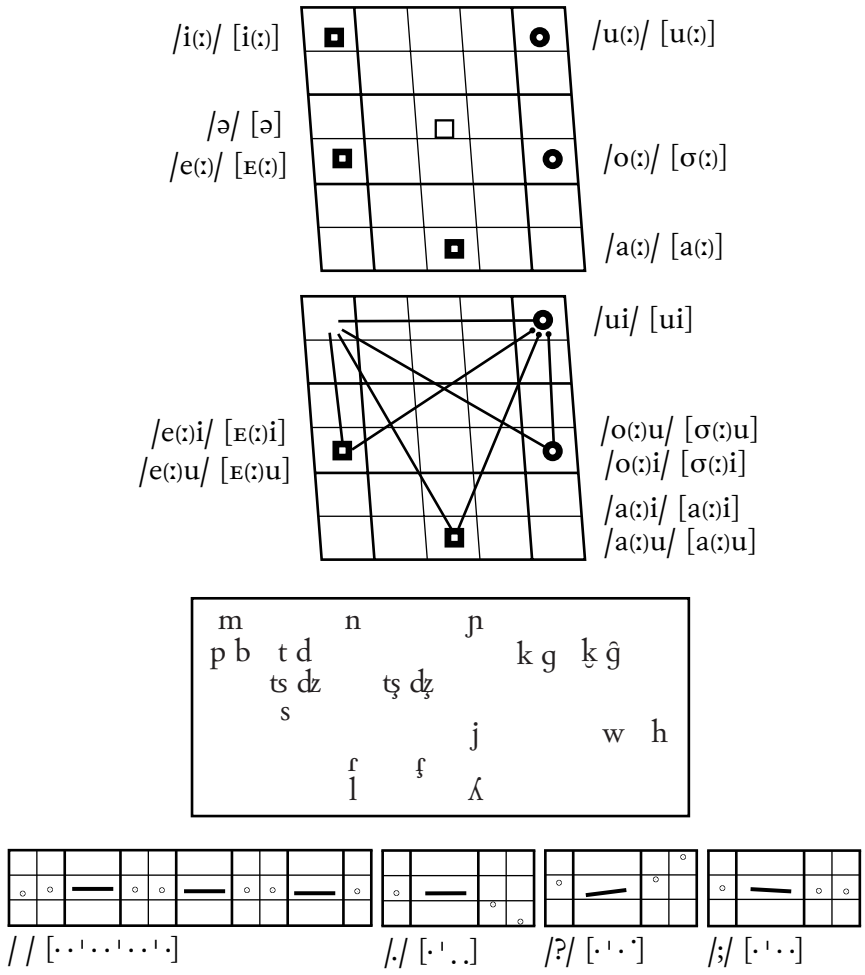


Proto-Greek

8.3. Our figures show the vowels, diphthongs, consonants, and intonation patters, which were likely to occur, including the 'aspirated' clusters /ph, th, kh, ḵh/, which we do not consider 'unitary phonemes'.

In addition, mediating what different scholars suggest, according to Natural Phonotonetics, it is likely that it hadthe three palatal consonants, shown, /ɲ; j; ʎ/, but three prepalatal ones: [tʂ, dʐ; ʂ].

fig 8.3. Proto-Greek (*ca* 2200-1700).



Mycenaean

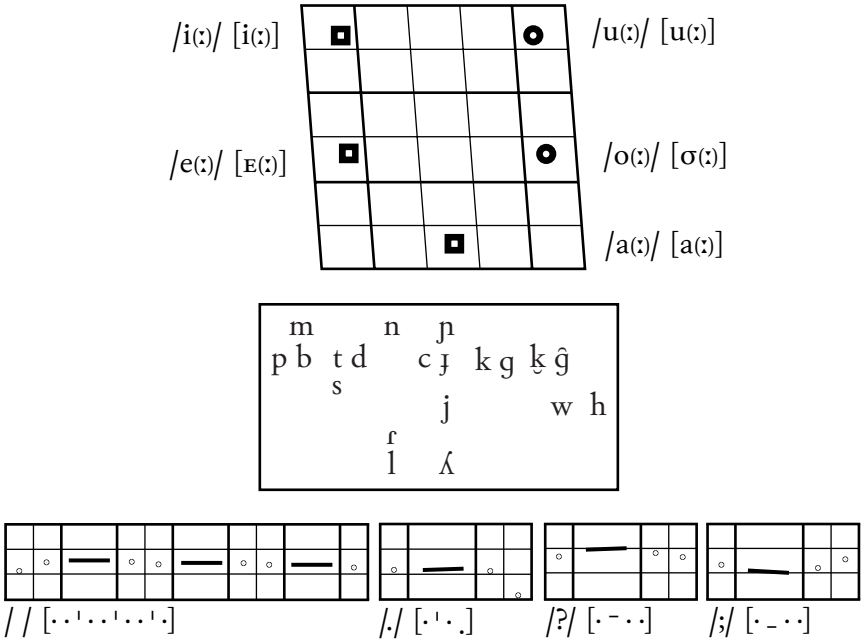
8.4. This language is not well attested and described, for a severe lack of documents. However, we present the following figures, which may be considered reliable.

Arguably, vowel clusters, as diphthongs, certainly occurred, by combining the elements given in the vocogram. Let us only add that it also had the 'aspirated' clusters /ph, th, kh, k̟h/, which we do not consider 'unitary phonemes'.

Besides, mediating what different scholars suggest, and also taking into account the results of loans, according to Natural Phonotonetics, it is likely that the 'palatal' series of consonants were more probably prepalatal: /ɲ; c, ɟ; j; ʎ/ [ɲ; tʂ, dʐ; ɹ; l̠] (with stop-strictive [tʂ, dʐ]).

What we think about the reliability of the intonation patterns shown is a well-known fact.

fig 8.4. Mycenaean (*ca* 1400-1100).



Koiné (or Hellenistic) Greek

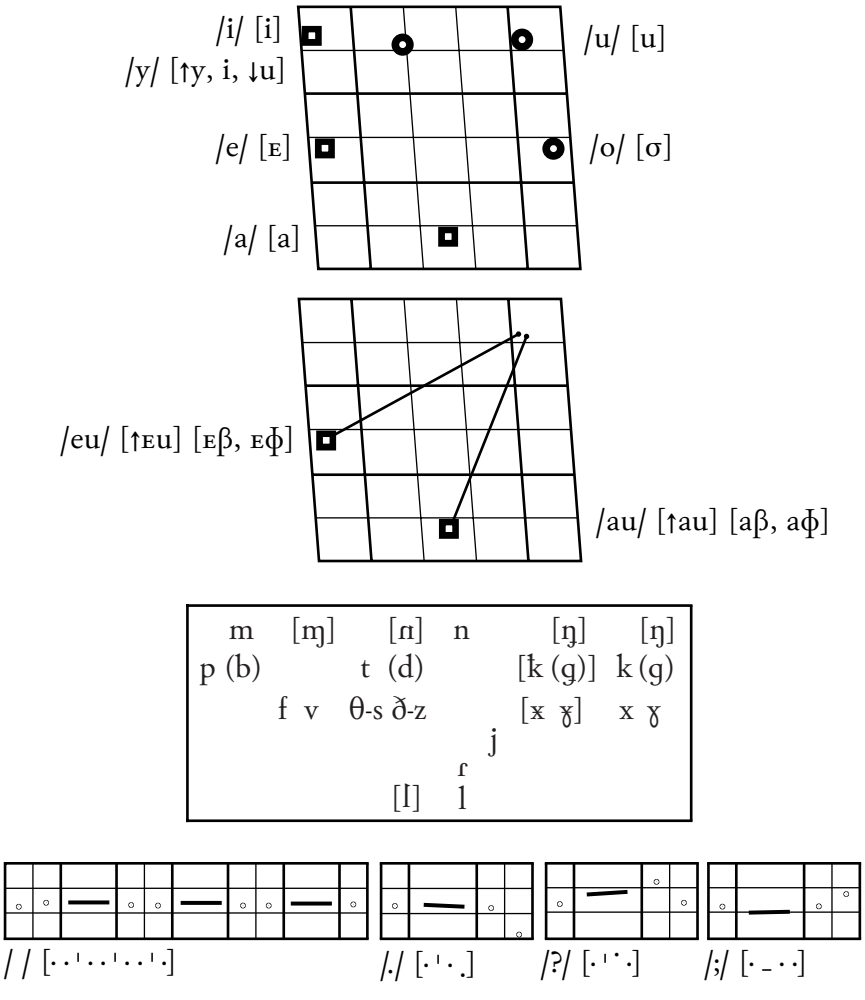
8.5. It had six short vowels and two diphthongs, which, officially, had not yet become /ef, ev; af, av/, but very likely, currently, were already [ɛβ, ɛɸ; aβ, aɸ]. Cultivated speakers kept /y/ [y], which currently became [i], or in broad popular accents, [u].

It had the given xenophonemes (in round brackets) for loanwords, the sequences /ps, ts, dz, ks/, and [n≡C].

There was no prenasal voicing yet, and the (ancient) tonemes had disappeared, but the opposition /C/ ≠ /CC/ was preserved.

Although belonging to (quite) different situations and epochs, these rather synthetic descriptions are clear enough (including intonation).

fig 8.5. Koiné (or Hellenistic) Greek (*ca* 300-300).



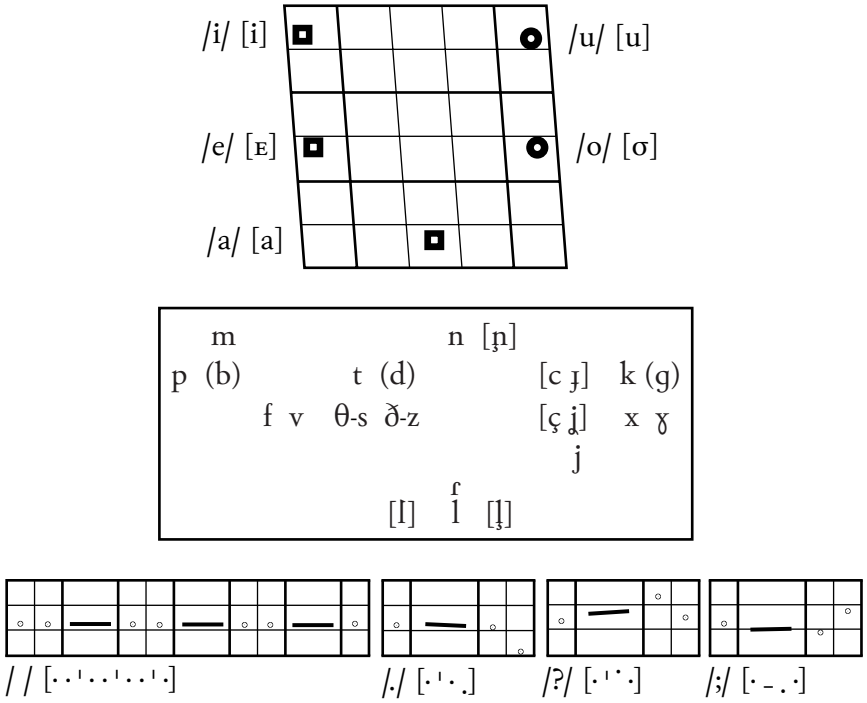
Byzantine (or Medieval) Greek

8.6. It only had the five short vowels typical of present-day Greek, with clusters of thrue diphthongs, [VV], and hiatuses, [V$^{\text{V}}$V].

It had three consonantal xenophonemes, shown between ( ), and presented some palatalized consonant taxophones, already: prepalatal, [n̟; l̟], and true palatal, [c, ɟ; ç, ʝ].

After nasals, diphonic voiceless consonants were already voiced /NC̬/ [NC̬], with [n≡C]. Consonant gemination had been lost, and αυ, ευ were already as they are in present-day Greek, *ie* sequences of /VC/ [Vf, Vv].

fig 8.6. Byzantine (or Medieval) Greek (*ca* 600-1500).



9.
Diachoric phonopses

How ancient Greek is pronounced in some western Countries, today

9.0. This chapter will present the 'spatial' accents typically used by neutral speakers living in some contemporary Western nations. Their languages are: English, German, French, Spanish, Portuguese, Italian, Russian, and modern Greek. We refer to their 'neutral' accents, although, of course, all of them may certainly present more or less marked regional traces.

We will usually show only the most relevant phones, without more automatic taxophones, due to normal and inevitable assimilation.

Very typically, no toneme is 'respected', since only stress is used, not rarely with different distribution from the classical one, due to Latin 'rules'.

English Greek

9.1. This is the most possible far away 'reality', in comparison with all other phonopses given in this chapter, it is rather more complicated. All that, in spite of being a simplified version, *ie* with fewer taxophones than actually used in scientific and medical usages nowadays in English.

The first vocogram shows the 'monophthongs' (and some less favorable diphthongal variants given in the second vocogram). Furthermore, [↓ₒə] is also included for frequent use in unstressed syllables. The second vocogram gives the typical diphthongal realizations.

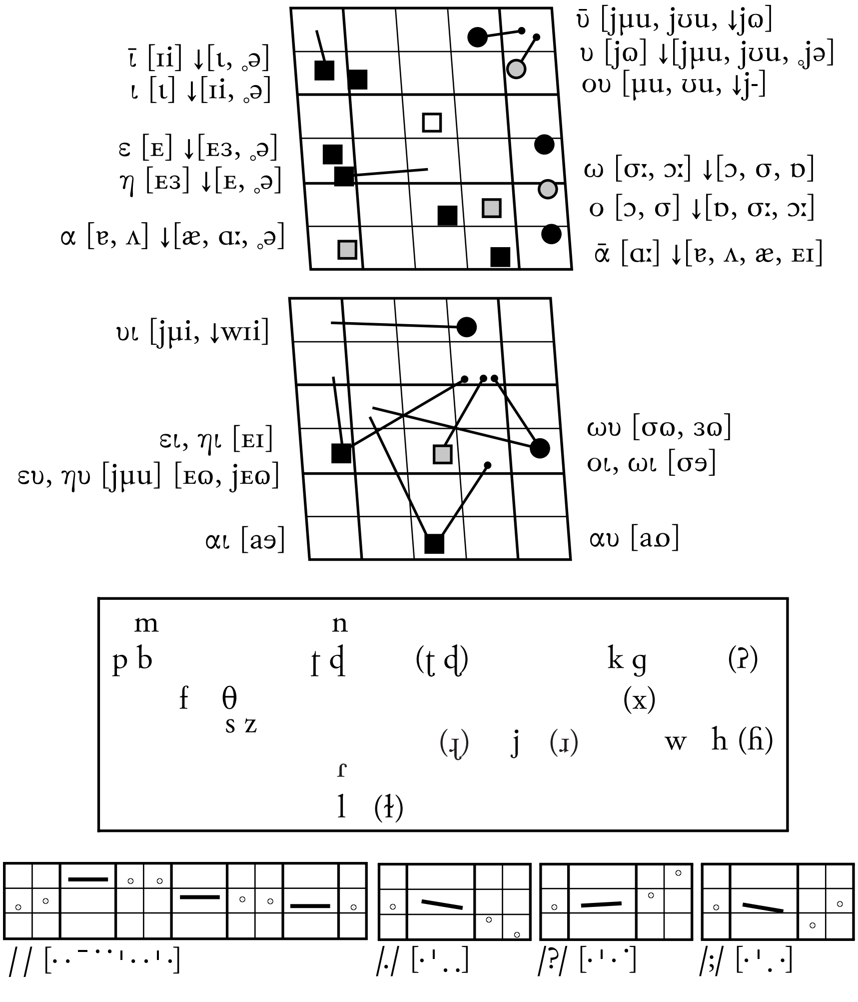
The following are the most frequent realizations (although also the others which can be seen on the vocograms may certainly occur, more or less frequently). In addition, when people do not know exactly the length of the stressed vowels, readily their timbres may exchange.

However: α [ɐ, ↓æ], ᾱ/ᾰ [ɑː, ↓ɐɪ], ε [ɛ], η/ῃ [ɛɜ], ι [ɪ], ῑ [ɪi], ο/ω/ῳ/ωυ [ɒ, σː, σɷ, ↓ɜɷ], υ [↓jɷ], ῡ/υι [jɥu, jʊu], ου [ʊu, ɥu, ɷ], ει [ɐɪ], οι [σɘ], αι [aɘ], αυ/ᾱυ [aɒ], ευ/ηυ [jɥu, ɐɷ].

As for the *consonants*, let us notice: τ [ʈ(h), ʈ(h)ɻ], δ [ɖ, ɖɻ], π [p(h)], ϑ [θ, ʈ(h)], φ [f], χ [x, ɤ, k(h), ƙ(h)], ψ [ps, ʱs], ξ [ks, ʱs, ʱz], ζ [z, zɖ, dz], σ/ς [s, ʱs, sʱ; zb, zɖ, zg], λ [lV] ↓[ɬC, ɬʱ, ɬV], ρ [ɾ, ɹ, ɻ], ῥ [ɾ, ɹ, ɻ, hɾ], and homorganic ν [n≡C] followed by a consonant.

Geminates are rendered as [C] (or, possibly, as [↑CC]). A phonic zero, or sometimes [ʔ], corresponds to the 'smooth' breathing (᾿), as also the 'rough' one (῾), but some people may choose to use /h/ [h, ɦ].

There follows a possible typical British sample of the Aesopian fable given under § 6.3, illustrating the kind of pronunciation generally used at school and university, unless more genuine, but more complicated, realizations are favored.



[bəˈɻᴇɜs khaɘˈᴇliɒs ˌphᴇɻʝɷdəˈnɑ·mᴇɪɒs ˈᴇɻəˌzɒn·¦ ˈᴇɖɒkˌsᴇɪ ɖᴇɪaɷˈʈhʊɘs ᴇˈƙhᴇɪˌnʊɷ ʈᴇnˈnɪiƙᴇɪ nɐpəˈnᴇɪmaɘ.· ˌɒsən aɷˈʈhʊːn ˈɐnθɻəˌpɒn ˌɒɖʊɘˈhpʊ·ɻən ᴇƙˈɖjµusᴇɪ..| ˌkhaɘ-ʊɷbəˈɻᴇɜs ɑ·(ɹ)kˈsɑ·məˌnɒs (s)fəˈɖɻɒsᴇn.· ˌɻµuɖiɐnˈθɻɒpu ɐnˌʈᴇxəˈmᴇnµu ˌʈᴇsᴇsˈθᴇɜʈɒz ˈmɐlən ᴇˈphᴇƙᴇɪˌʈʊɷ..|

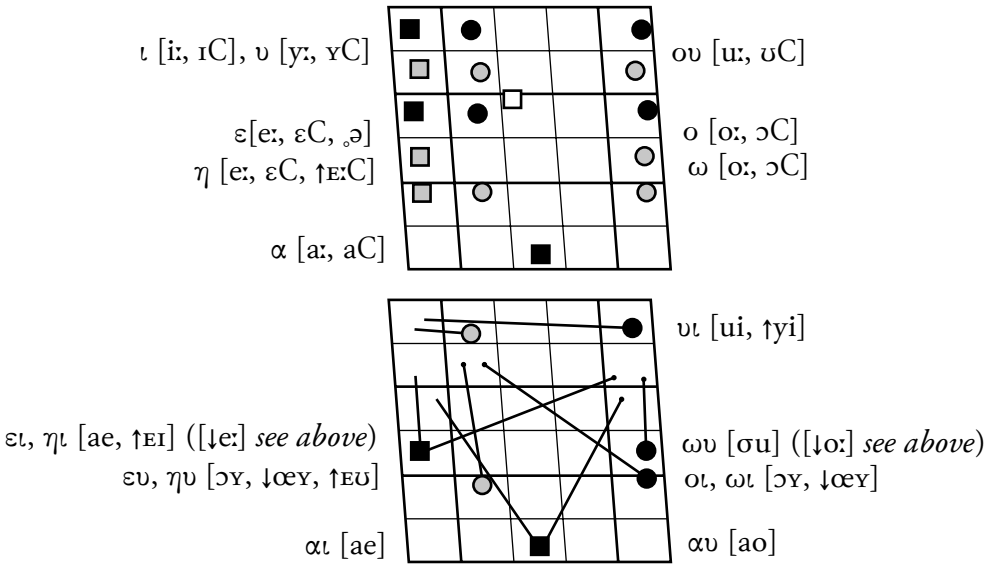
ˌʊɷɖᴇɪəˈphʊɷ ʈə(p)ˈsjµuxəs ˌkhɐʈəpʊɷˈnµuməˌnɒs·¦ ˌᴇʈiˈmɐlɒŋ ˌkaɘpəɻɩʈəˈʈhᴇɻən ᴇs-ˈθᴇɜʈə ˌpɻɒsəˈlɐmbənən·¦ ˈᴇɷs əˌpɒkəˈmʊːn ʊɷbəˈɻᴇɜs ʈʊɷəˈlɩʊɷ ˌmᴇʈəpəˈɻᴇɖəˌƙᴇɪ..| kə-ˈƙhᴇɪnɒs ˌʈʊɷmᴇmˈphɻʊɷʈɒm mᴇˈʈhɻɪiɒs pɻəˈsᴇləmpˌsᴇɪ.·¦ ˌɻµuɖᴇɪənˈθɻʊɷpµu ˌʈɑ·pᴇ-ɻɩˈsɑː ʈʊ·nˌɩməˈʈhɪiɒn ɐˌpɒʈɩθəˈmᴇnµu·¦ sfəˈɖɻɒʈəɻɒn ʈəˈkhaɷmə ʔᴇˈphᴇʈᴇɪˌnᴇɪ· ˈmᴇxɻɩs ˈʔµu pɻɒsˌʈᴇnəˈlᴇɪən ʔɐnˈʈhᴇxᴇɪm ˌmᴇɖjɷˈnɑ·məˌnɒs·¦ əˌpɒɖjɷˈsɑ·məˌnɒs ˌpɒʈəˈmµu ˌpɐ-ɻəˈɻᴇɷnʈɒs ʔᴇˌpɪiləˈʈhɻɒn ʔəˈphᴇɪᴇɪ..|

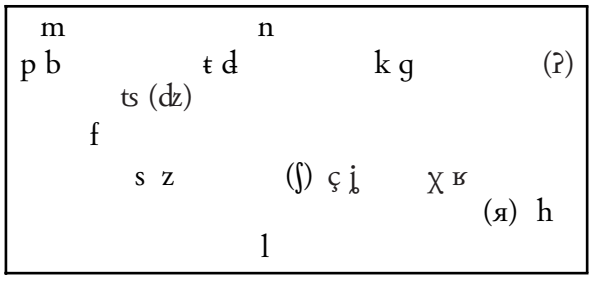
¿ˈɐɻᴇɜˈɖᴇsʊɘ ʊɷˈmɪiθɒs·˙| ¿ˌᴇɜbəˈlɒməθɐ· ¿aɷˈʈhɒm ˈphɑ·lɩn ˈlᴇgᴇɪn·˙].

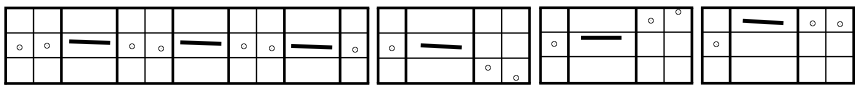
German Greek

9.2. Practically, the German accent has seven vowels, since their timbres mostly depends on the structure of their syllables. In fact, in free syllable, we generally find [iː, eː; yː, øː; aː; oː, uː] (shortened in unstressed syllables), while, in checked syllable, [ɪ, ɛ; ʏ, œ; a; ɔ, ʊ] occur. Besides, for ɛ in unstressed syllable, we may certainly find [ə], or sometimes [ɐː] for ɳ, in stressed syllable. The second vocogram shows the diphthongs and their possible variants.

As for the *consonants*, we find π, τ, ϰ [ph, ʇh, kh] in stressed syllables; φ [f], ϑ [ʇ(h), ↑θ], χ [χ, x, ç]; ζ [ts(h), ↓ʤ]; σ [s] ↓[#z, zV, #ʃp, #ʃʇ], ς [s]; β, δ, γ [b, b̥; ɗ, ɗ̥; g, g̊]; ρ [ʁ, ʁ#]; ʾ [ʔ]; ʿ [h, ↓ʔ]; often [j̊] for ι followed by a vowel; besides [n≡C]. No consonant gemination is maintained phonically: /CC/ [C].



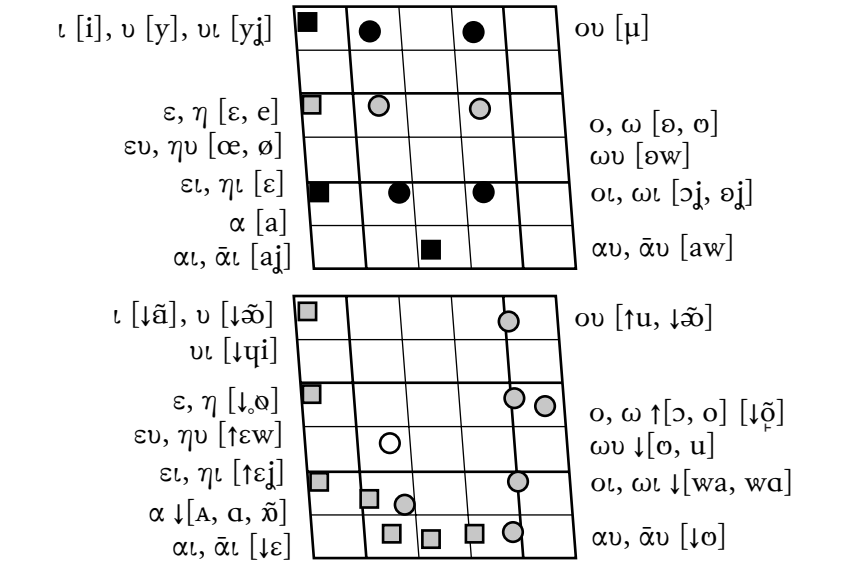




French Greek

9.3. The first vocogram shows the typical vocoids, with [e, ø, o] mostly occurring in free syllables, while [ɛ, œ, ɔ] are preferred in checked syllables. It also shows that the diphthongs which are kept become sequances of vowels plus [j̯, w]. The second vocogram gives both milder and broader realizations, as can be seen, including [ə] for unstressed ɛ, η, and the nasalized vocoids, which are possible for vowels followed by a tautosyllabic nasal consonant. Otherwise, instead of [n≡C], we find [nC] even for γγ, γκ, γχ.

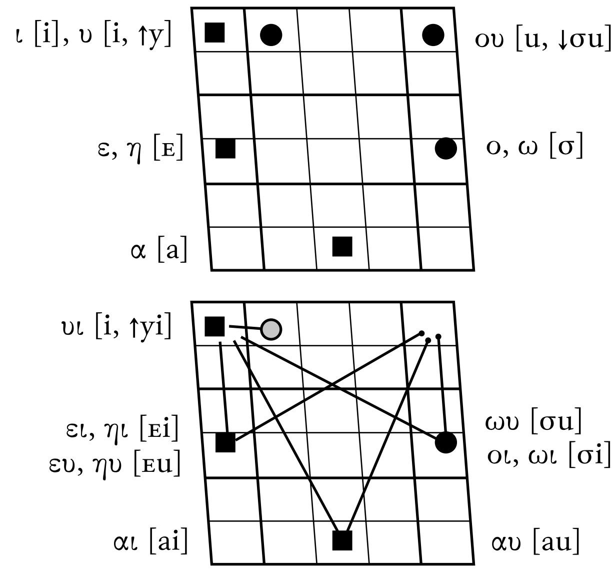
As for the other *consonants*, in addition to [j̯, w] already seen, we find [ʈ, ɖ] for τ and δ before /i/, and [c, ɟ] for κ and γ before /i, e, ɛ/. In addition, we have: φ [f], θ [t, ʈ], χ [k, c], ρ [ʁ, ʀ], σ [s, VzV], ζ [dz, z]; ’ and ʿ [Ø] (‘zero’, or possibly [h] for the second in Belgium and Switzerland). No consonant gemination is maintained phonically: /CC/ [C].

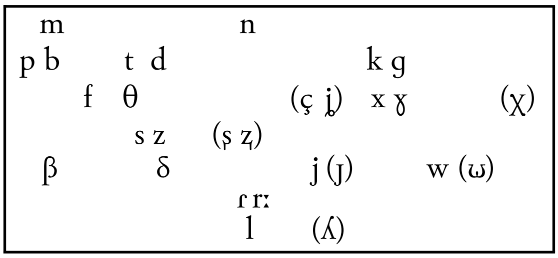


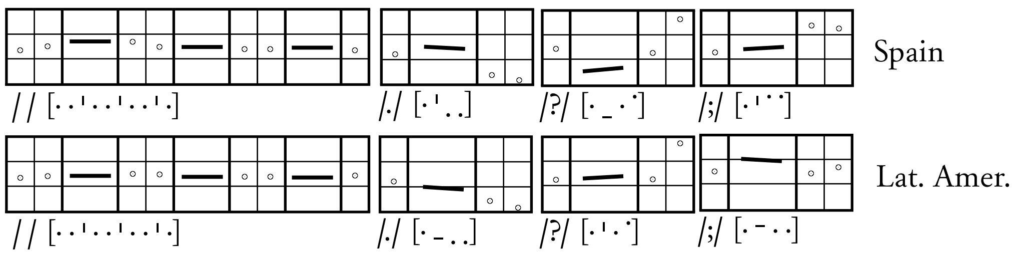
Spanish Greek

9.4. As the first vocogram shows, in addition to the five vowels of Spanish, ‘committed’ speakers may use [y] for υ, which they hear in French. Of course both ‘short’ and ‘long’ vowels are merged into the typical Spanish vocoids. Due to spelling, oυ may become [↓σu]. The second vocogram gives the other true diphthongs, including mild υι [↑yi].

As for the *consonants*, besides [n≡C] (although with possible /n#/ [ŋ]), we find: β, δ, γ [β, δ, ɣ], φ [f], ϑ [θ, s], χ [χ, x, ç]; σ/ς [s, ʂ] (and [z, ʐ] before voiced consonants); λλ [l] ↓[ʎ, j̦]; ρ [ɾ, ↓#rː]; ’ and ‘ [ø] (‘zero’, or possibly [h] for the second in very mild accents). No consonant gemination is maintained phonically: /CC/ [C].



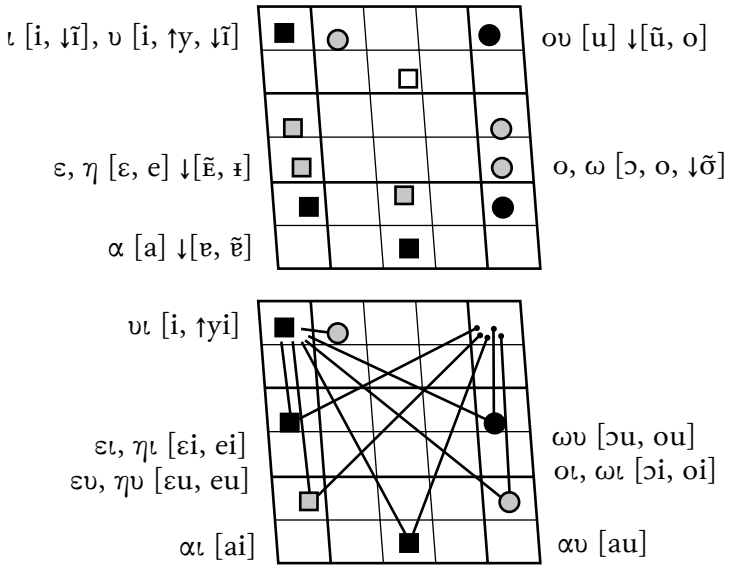


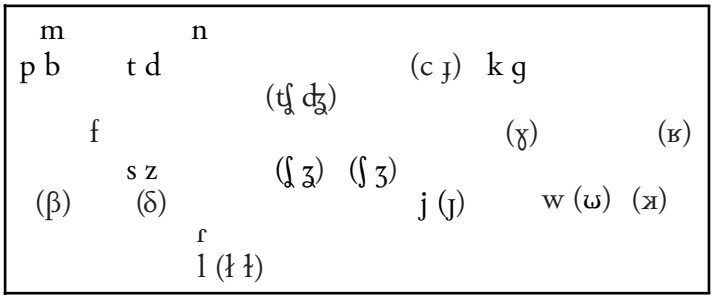


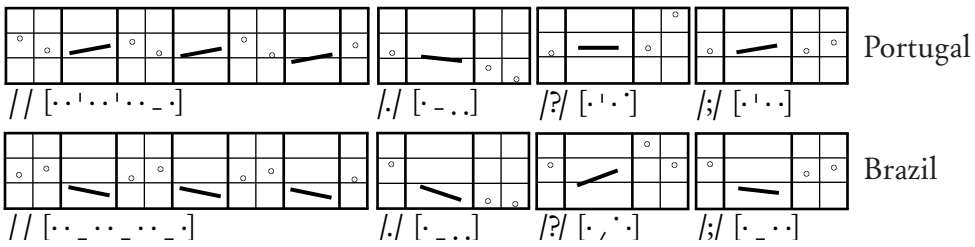
Portuguese Greek

9.5. The first vocogram shows the five most typical vocoids used by Portuguese (*ie* Lusitanian and Brasilian) speakers, together with their five variants, including 'committed' [y], and Lusitanian [ə] for ε, η in unstressed syllables. It also shows the five nasalized vocoids, which automatically appear when followed by a nasal contoid, since they are not phonemic in Portuguese, in spite of too many descriptions that consider them to be phonemes. The second vocogram gives the diphthongs and their variants, including υι [↑yi].

As for the *consonants*, in Lusitanian accents, mostly between vowels, we find: β, δ, γ [β, δ, ɣ]; in Brazilian accents: τ, δ [ʧ, ʤ] (before /i/), ϰ, γ [ɕ, ʝ] (before /i/); σ [s, VzV], σC [s, z] ↓[ʃ, ʒ, ʃ, ʒ]; ρ [ɾ] ↓[#rː, #ʁ, #ʁ; ʁC, ʁC; ʁ#, ʁ#]; φ [f], ϑ [t], χ [k, ʁ]; λ [l] ↓[ɬ#, ɬC]; ʾ and ʿ [Ø] ('zero'). No consonant gemination is maintained phonically: /CC/ [C].





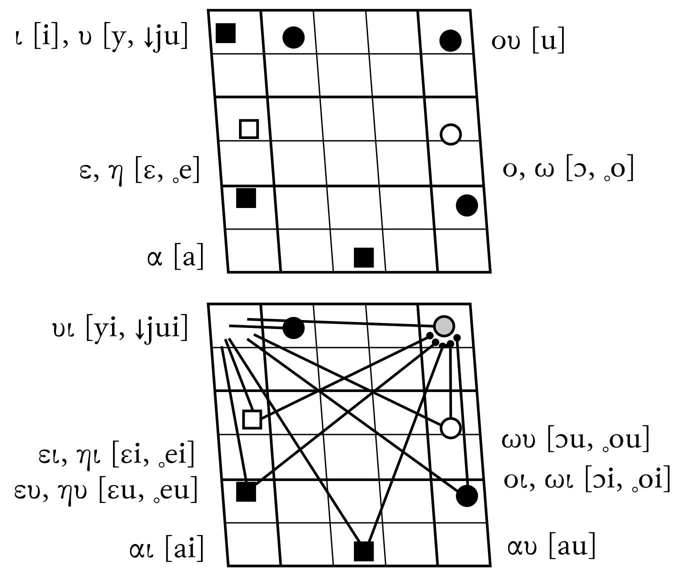


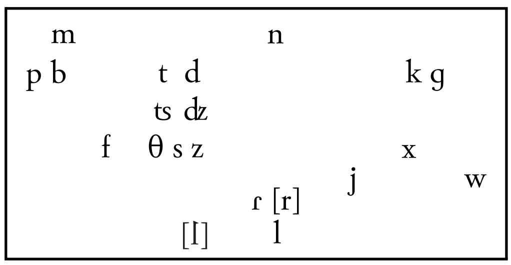
Italian Greek

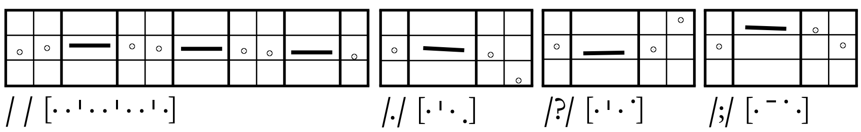
9.6, Typically, the Italian accent has six vowels, ι, ε/η, α, ο/ω, ου, υ /i, ɛ, a, ɔ, u, y/ (invariably with /ɛ, ɔ/, in stressed syllable, also in diphthongs, ει, ευ/ηυ, οι /ɛi, ɛu, ɔi/). Except for ου /u/, all other written diphthongs (and vowel clusters) are phonic diphthongs: αι, αυ/ᾱυ, ωυ, υι /ai, au, ɔu, yi/; notice that η, ᾳ, ῳ are simply /ɛ, a, ɔ/.

We have [e, o] in unstressed syllables, except for vowel adjustment, with [ᴇ, σ], for /˳e|, ˳o|/ or for /˳ɛ, ˳ɔ/. Vowel and consonant length are automatically used as in Italian, with geminate written consonants, *CC*, maintained phonically: /CC/; besides [n≡C].

As for the other *consonants*, the letter σ is invariably /VzV/, as in βασιλεύς [ˌbaziˈlɛ·us], except in southern and central Italy (excluding Tuscany); ζ is /ʣ/ (geminate between vowels), and γ always /g/ [g] (not /ʤ/ [ʤ]); φ, ϑ, χ are /f, θ, x/ (some speakers use ϑ /ʦ/, geminate between vowels). Besides, ψ, ξ /ps, ks/. Both breathings correspond to a zero phone, except for the 'rough' one for some speakers, who intentionally use [h] (or, less well, [ʔ]).





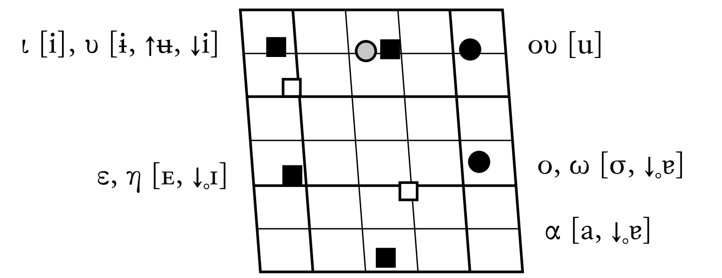


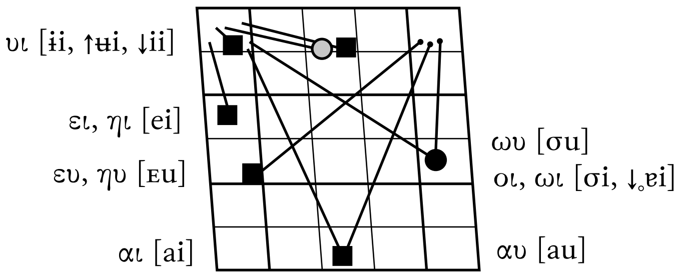
Russian Greek

9,7. The first vocogram shows the six more important vowels, ι, ε/η, α, ο/ω, ου, υ /i, ᴇ, a, σ, u, ɨ/ (or /↑ʉ/). It also gives the frequent unstressed [ɪ, ɐ] for ε/η, and α/ο/ω, respectively. The second vocogram shows the diphthongs and variants.

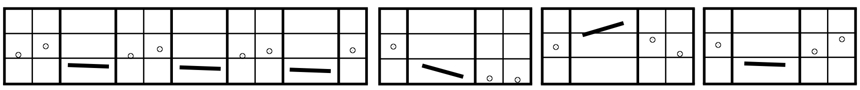
In stressed syllables, broad accents have: ε/η [je, ɟe], ο/ω [ɷσ].

As for the *consonants*, in typical broad accents, we find the palatalized counterpart of many of them, when preceded by /i/, as shown in the table, between ( ). In addition, we have: φ [f, f̧], ϑ [t, ʦ, ţ, ʦ̧], χ [ɦ̥, ɦ̧̥]; ʽ [ɦ]; ʼ [∅] (‘zero’); ζ [ʦ, ʣ], σ [s, z]; λ [ɫ, ļ], [n≡C]. No consonant gemination is maintained phonically, usually: /CC/ [C].





m (m̧) n (ņ)
p b (p̧ b̧) t d (ţ d̦) (c ɟ) k g
ʦ ʣ (ʦ̧ ʣ̧)
f (f̧)
s z (ş z̧) (j̥ j̤)
(ɦ̧̥) j (ɟ) (ɟ̶) ɦ̥ (ɯ) (ɦ)
ɾ (ɾ̧)
ɫ (ļ)



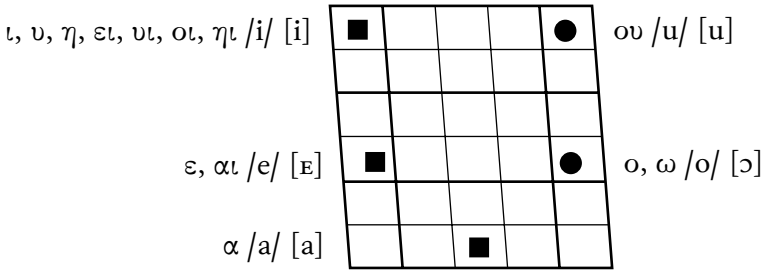
/ / [· · _ · · _ · · _ ·] /./ [· _ . .] /?/ [· ′ · ·] /;/ [· _ · ·]

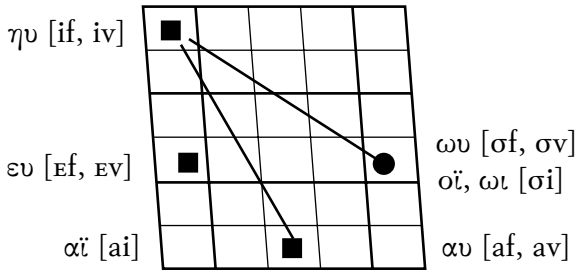
'Modern Ancient' Greek

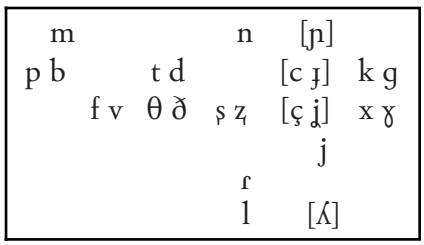
9,8. As we know, Latin is 'mispronounced' by Italian speakers, so ancient Greek is pronounced even worse by contemporary Greek people (in a different way, in comparison with English Greek).

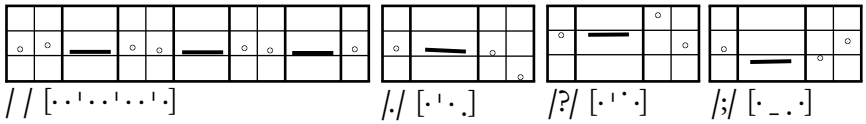
In fact, they use /i/ [i] for the following spellings: ι, υ, η, ει, υι, οι, ηι (and rarer combinations, too), /e/ [ɛ] for ε, αι, and /o/ [σ] for ο, ω. The second vocogram gives the situation of the diphthongs, with αϊ [ai] and οϊ, ωι [σi], while the other diphthongs heve become monophthongs, as shown in the first vocogram, or the sequences of vocoids and [f, v] (second vocogram).

In addition, they use: β, δ, γ [v, ð, ɣ]; φ, ϑ, χ [f; θ; ç, x]; μπ, ντ, γκ, γγ [mb, nd, ŋg] (or [b, d, g], or prenasalized [ⁿb, ⁿd, ᵑg]); [n≡C]; ζ [ʒ], σ/ς [ʂ]; [ɲ; c, ɟ; ç, ʝ; ʎ] before /i/ [i]. No consonant gemination is maintained phonically: /CC/ [C].









10.
Phonopses of 26 modern languages (for comparisons)

10.1. According to the phonetic method, the pronunciation of another language is done contrastively, by comparing the characteristics of the language to be studied and those of one's own mother tongue.

For the latter, at least its neutral accent is presented, although in a simplified way. In fact, only the diphthongs which are not just simple combinations of existing phonemes are here shown, possibly as independent phonemes, often with unpredictable realizations. In more complete books (with specific teaching purposes), also the regional accents of both languages are presented.

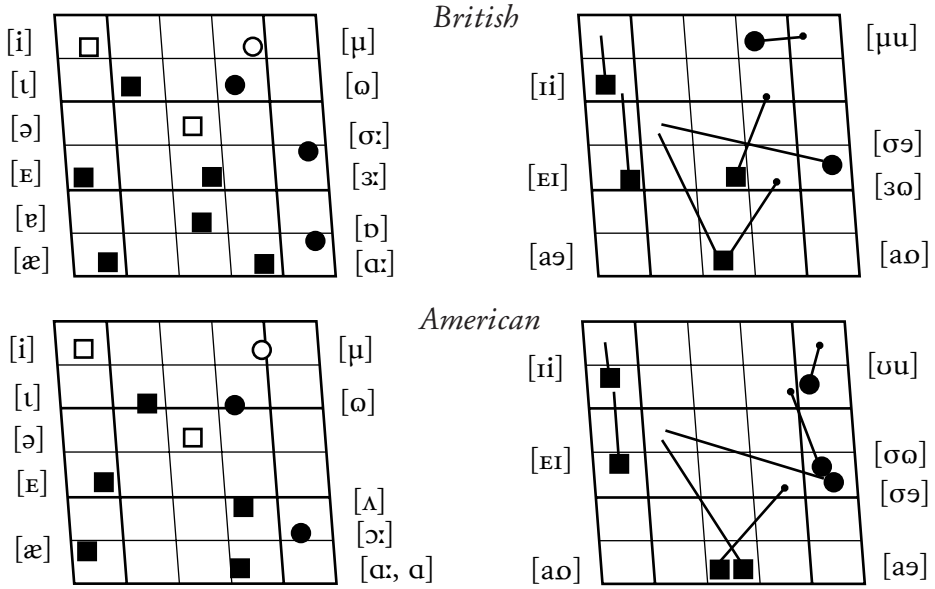
10.2. However, in this book it is not possible to provide everything and for several languages. The books already published (and those in preparation, indicated in the bibliography), which belong to the series *X Pronunciation & Accents*, are thought to be useful. They are on: English, German, Dutch, French, Spanish, Portuguese, Italian, Russian, Greek, Chinese, Japanese, Hindi, Turkish, Arabic, Hebrew.

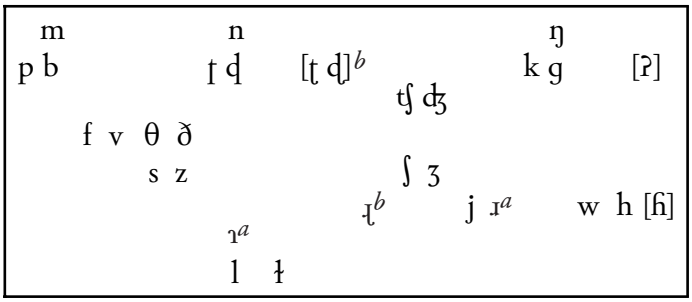
10.3. Therefore, here, we will at least provide the iconic phonopses of 26 languages, as for their *vowels*, *consonants* and *intonation*, a little simplified (but still more accurate than what can be found in so many other books). They are derived from those books or from *Handbook of Pronunciation* and *Natural Phonetics & Tonetics*, where much more can be found in comparison with what has been provided here. In fact, here, for tonal languages, we have also omitted their tonemes, while showing their marked tunes, with further simplifications.

10.4. Thus, it will be useful to carefully compare the phonopses of one's own language (and also those of other languages one wants to know), to see directly what is similar or different. In the indicated books, there are more than 300 such phonopses. *fig* 10.27.1-7 give a number of orograms of the contoids which are necessary to facilitate the comparison between different languages.

10.5. Symbols given between [ ] are important taxophones (or combinatory variants), while those between ( ) are possible additional phonemes or xenophonemes. Since we do not consider clusters like /Ch/ as unitary phonemes in possible opposition to simple /C/, they do not appear in the consonant tables provided.

fig 10.1. English.





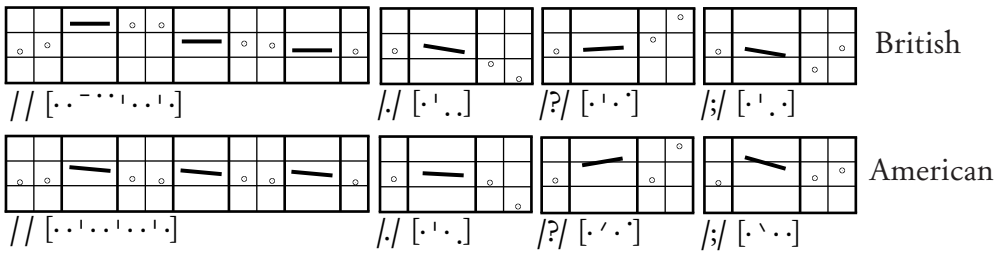


fig 10.2. German.

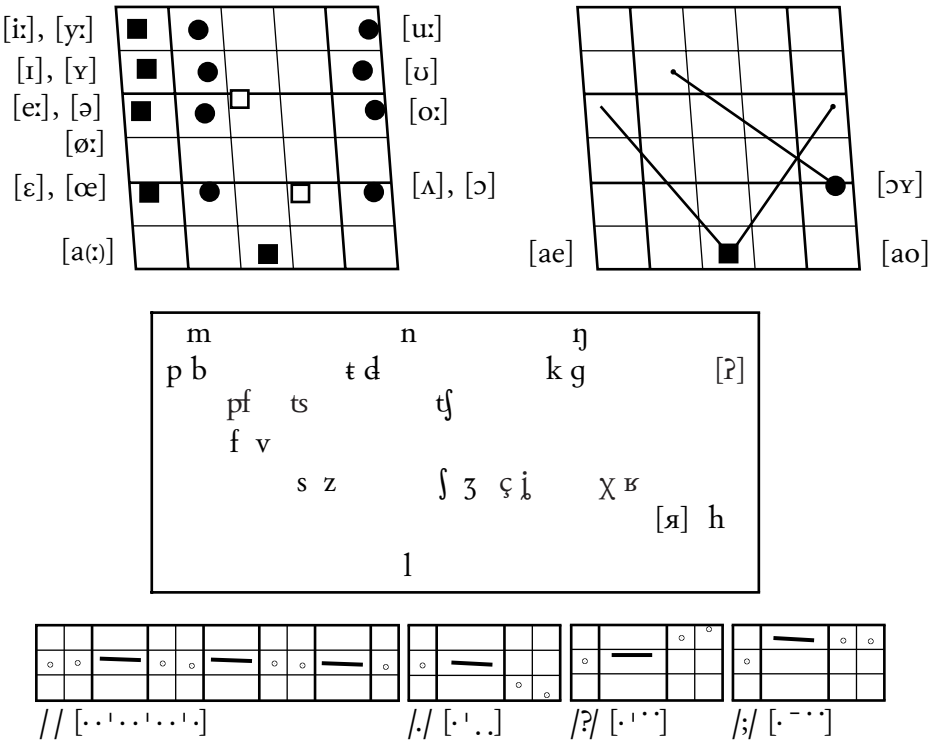


fig 10.3. Dutch.

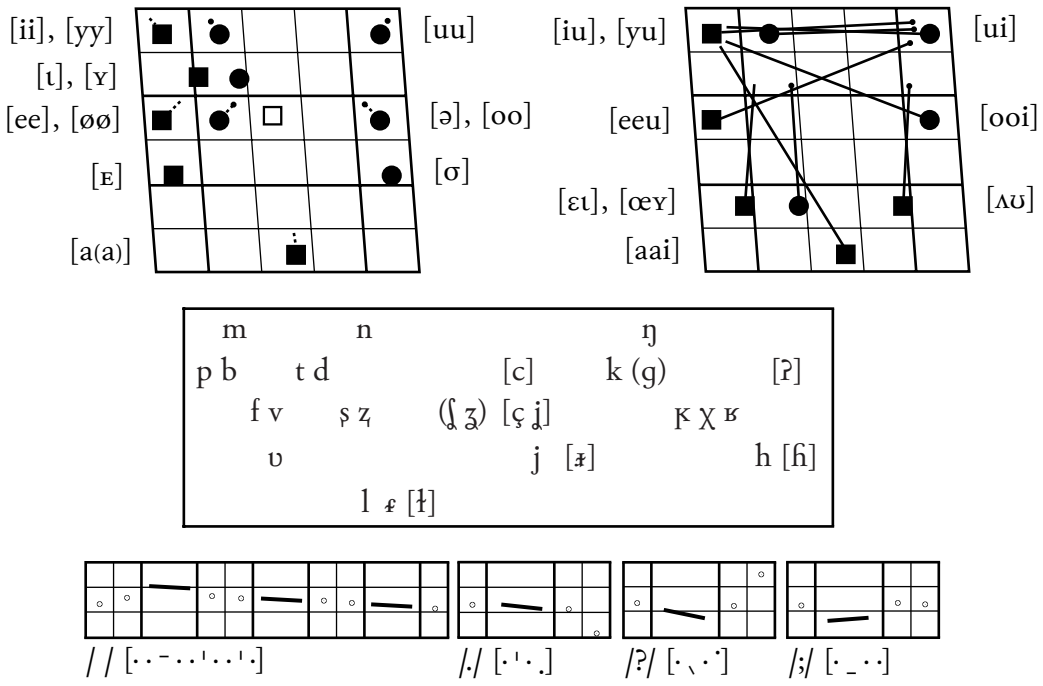


fig 10.4. French.

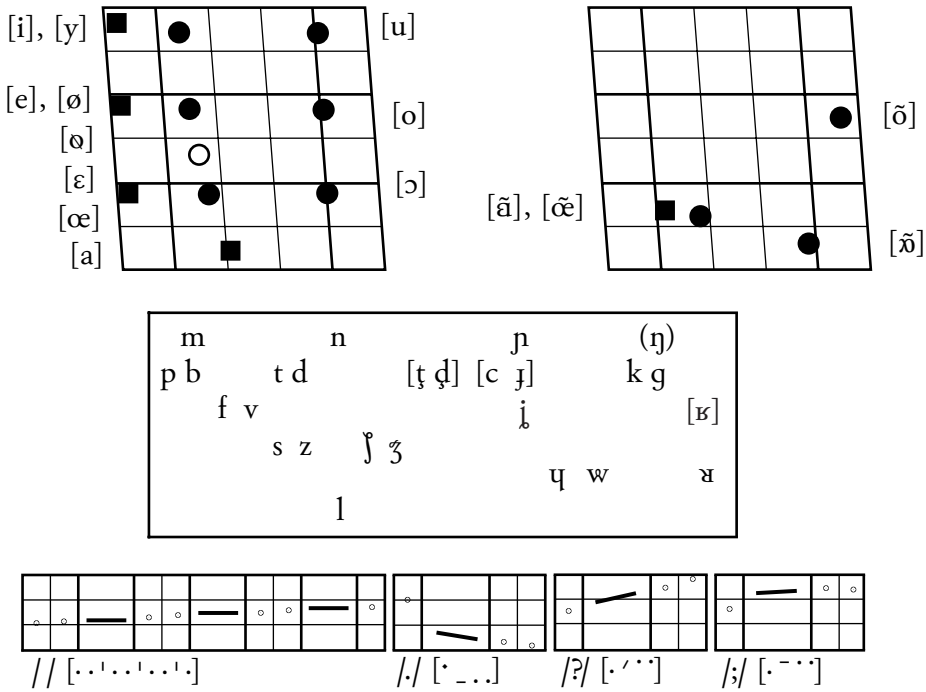
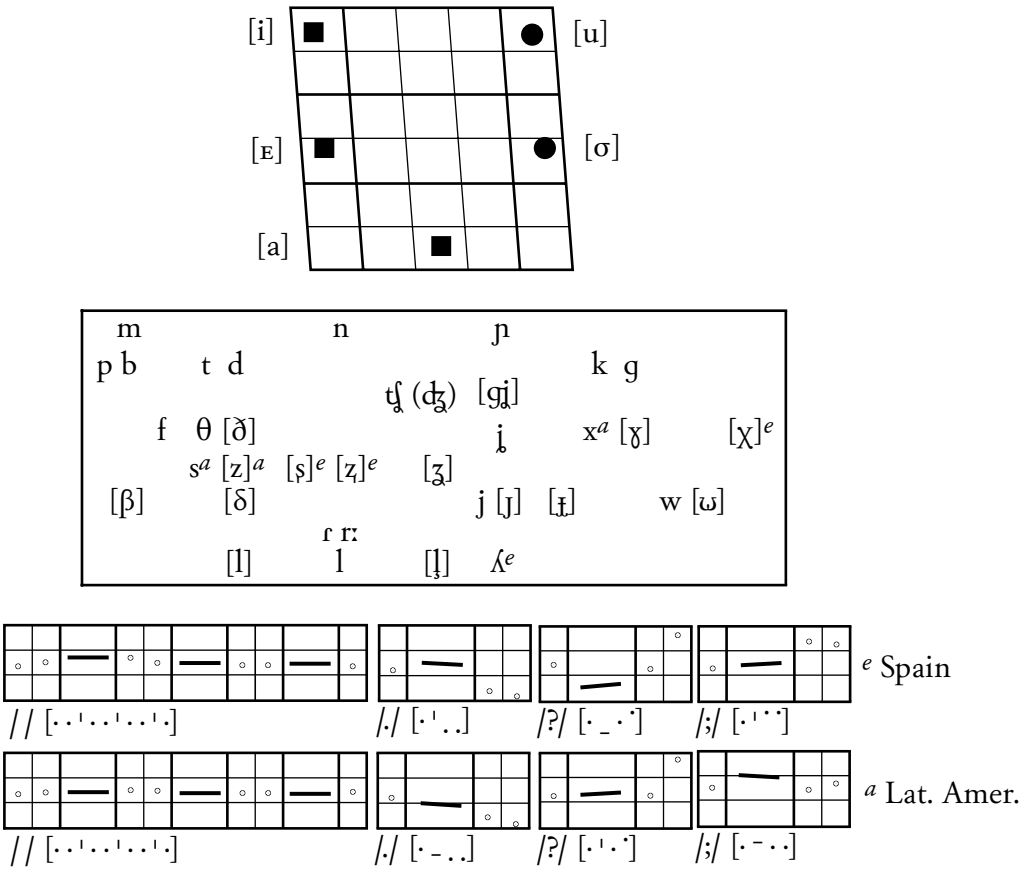


fig 10.5. Spanish.



ᵉ Spain

ᵃ Lat. Amer.

fig 10.6. Portuguese.

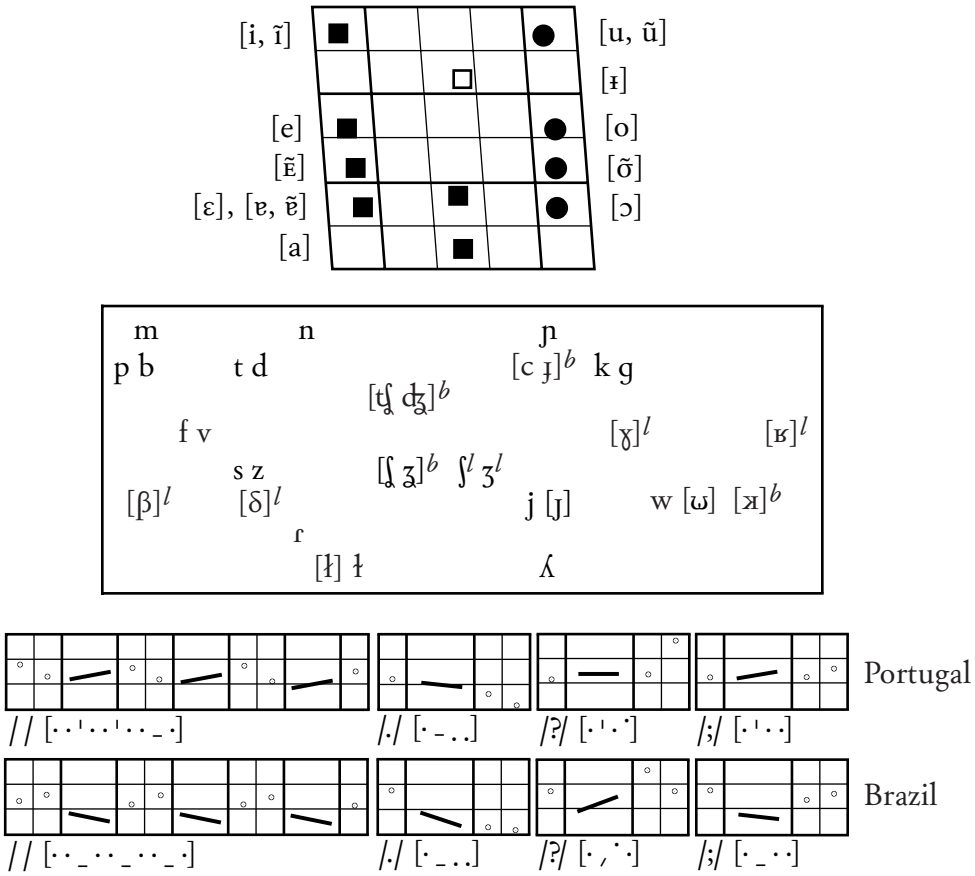


fig 10.7. Italian.

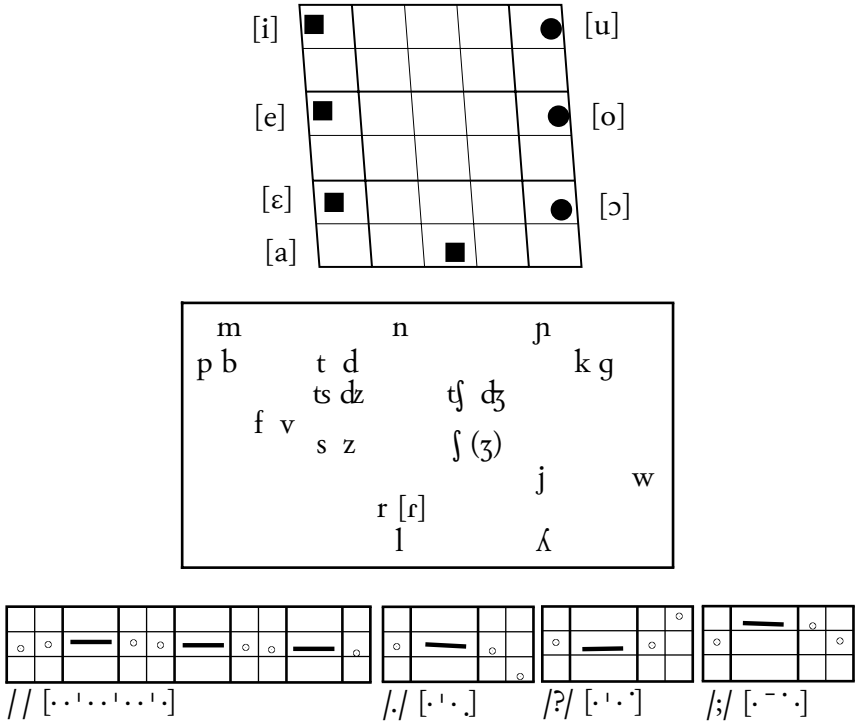


fig 10.8. Romanian.

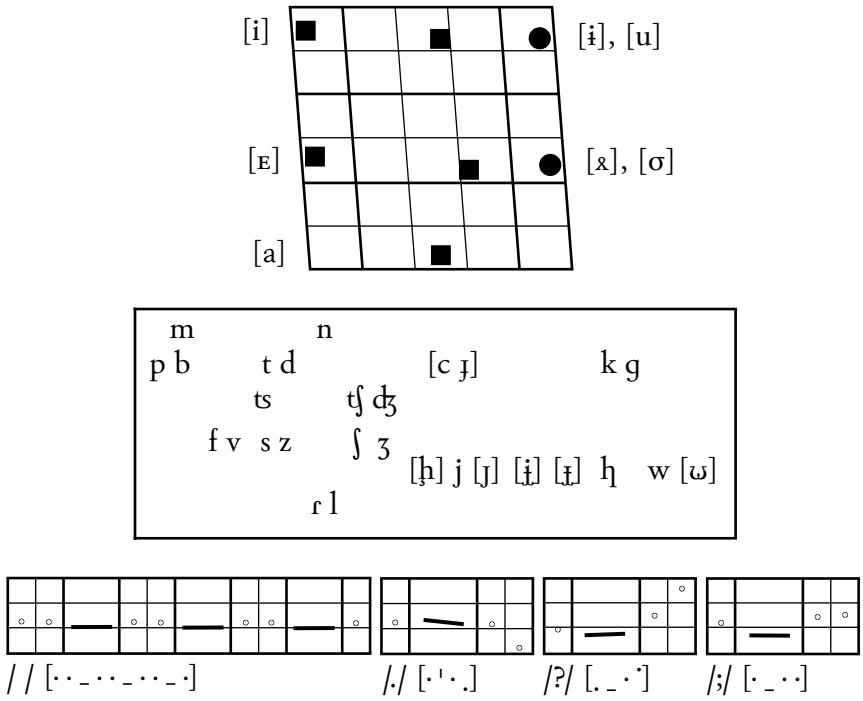


fig 10.9. Russian.

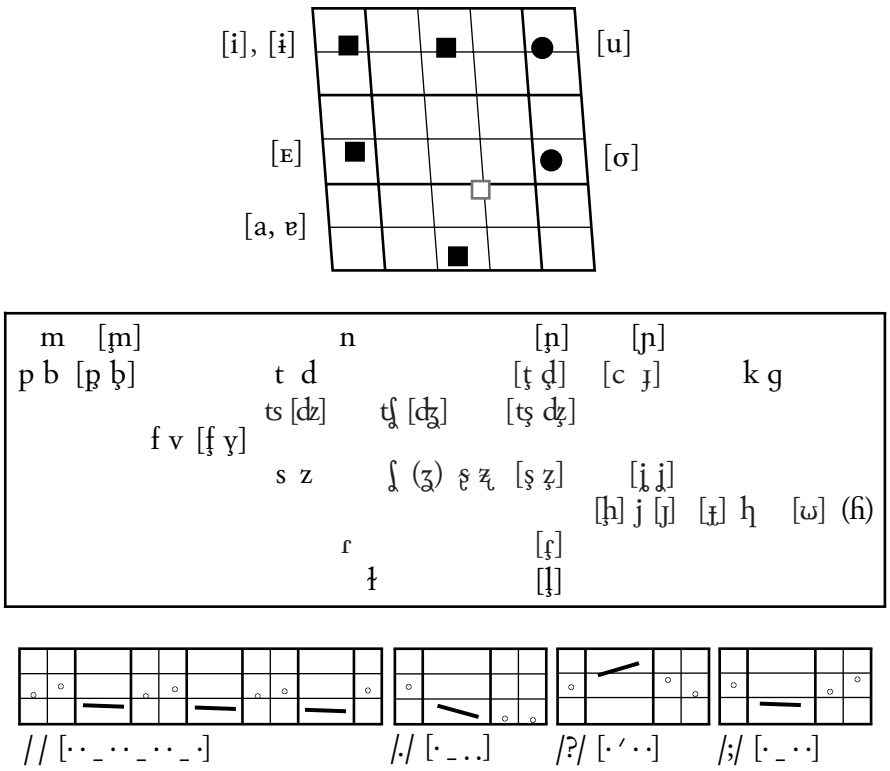


fig 10.10. Czech.

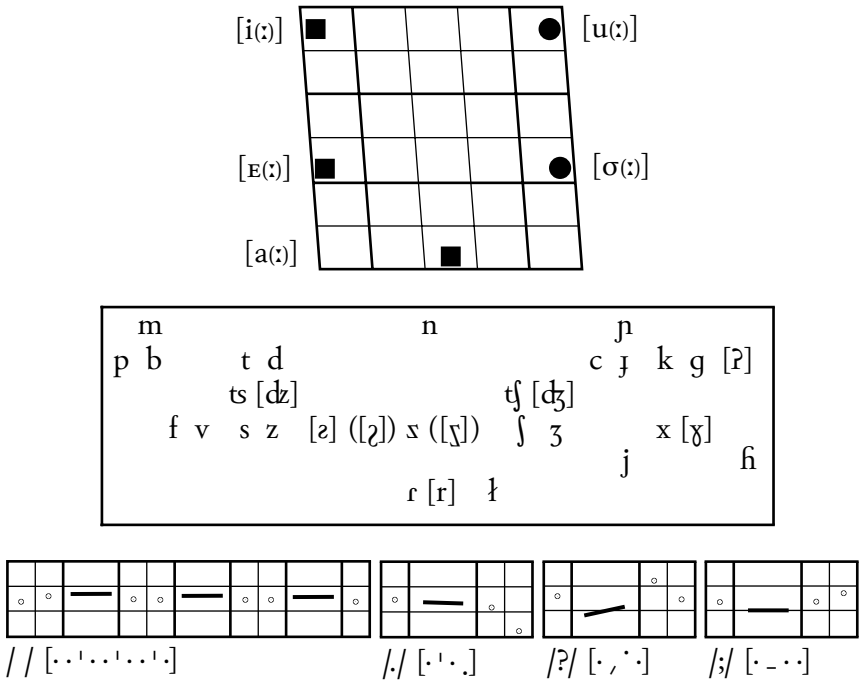


fig 10.11. Polish.

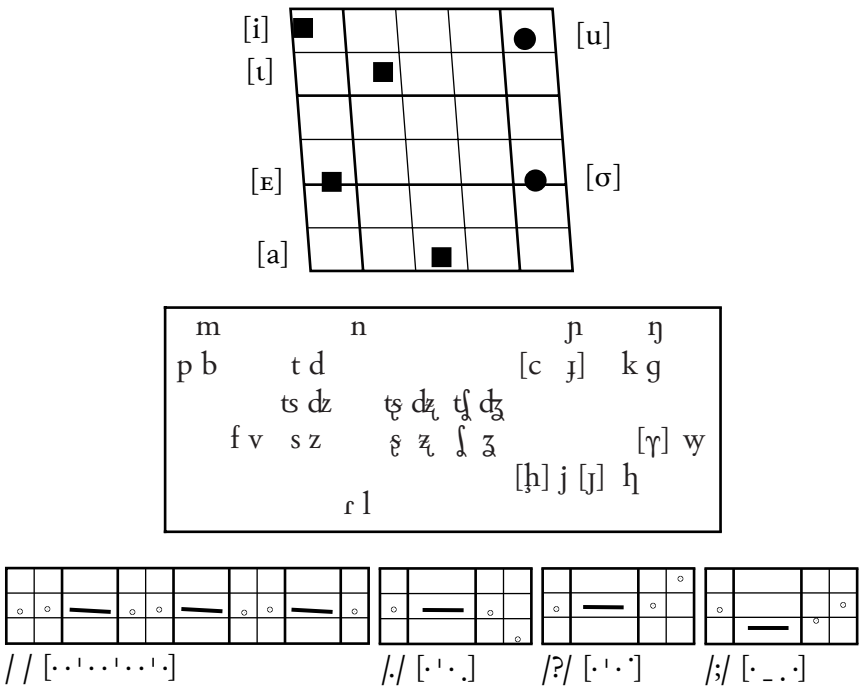


fig 10.12. Bulgarian.

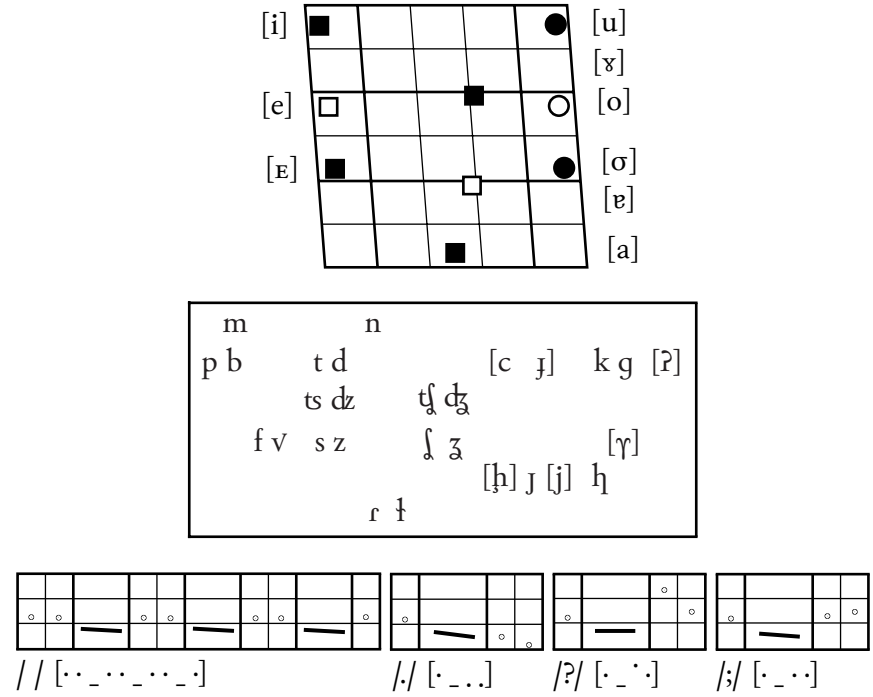


fig 10.13. Greek.

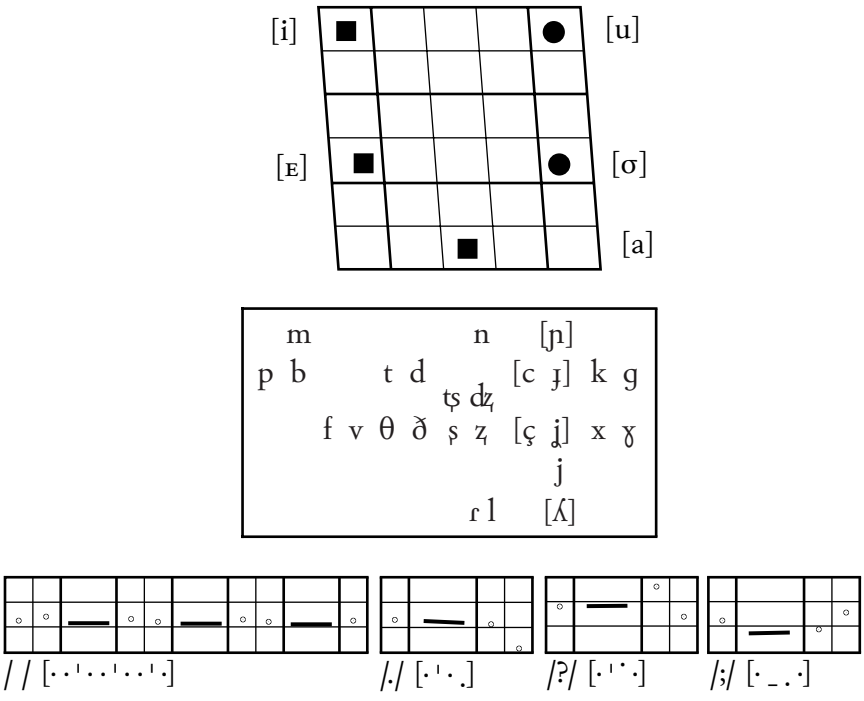


fig 10.14. Hungarian.

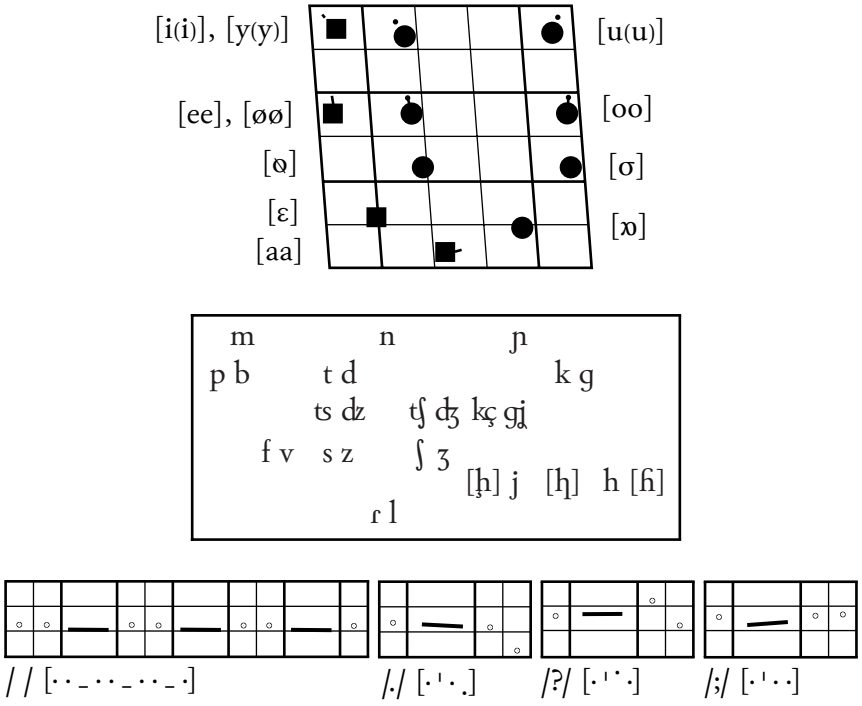


fig 10.15. Albanian.

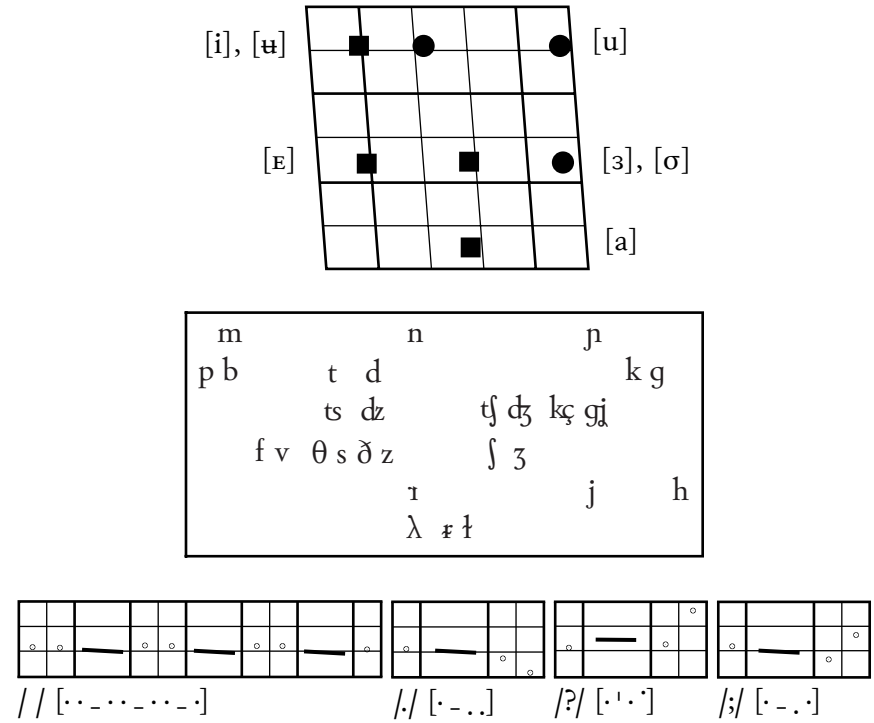


fig 10.16. Finnish.

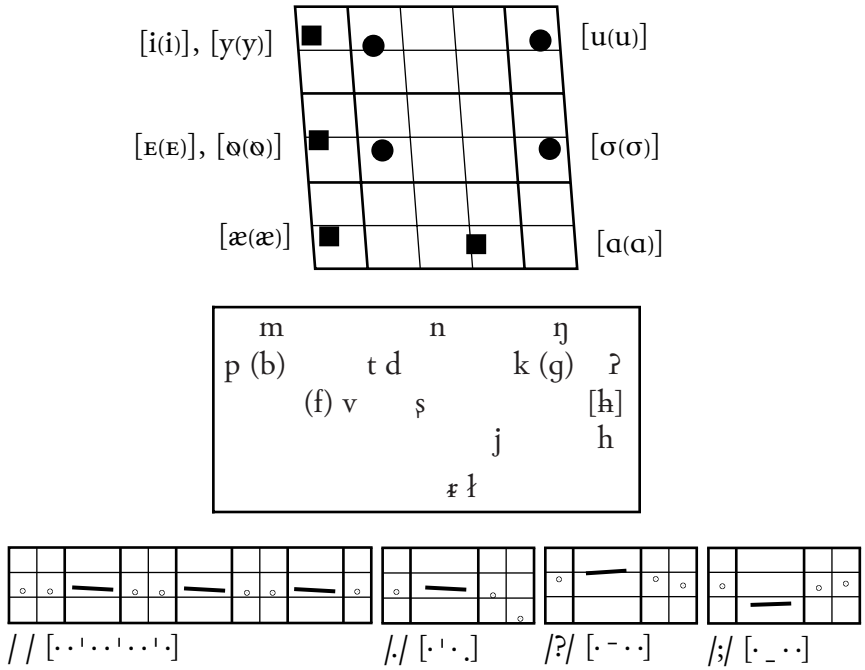


fig 10.17. Arabic.

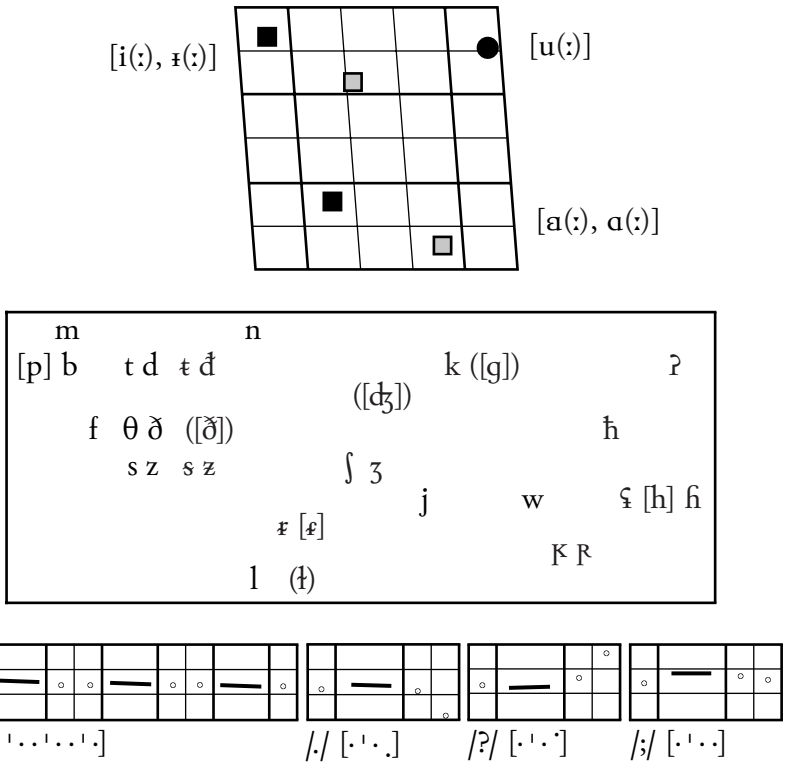


fig 10.18. Hebrew.

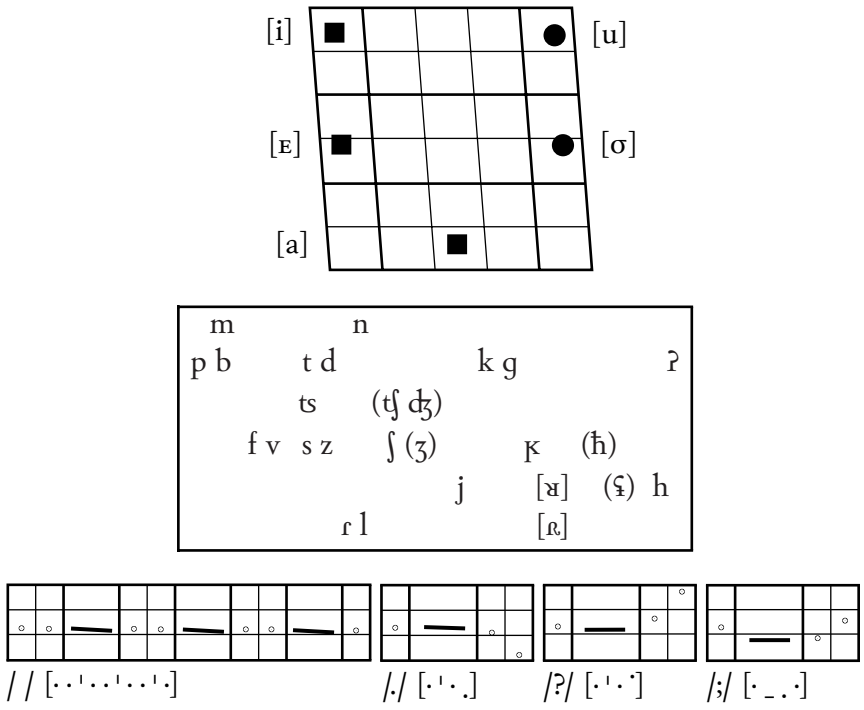


fig 10.19. Turkish.

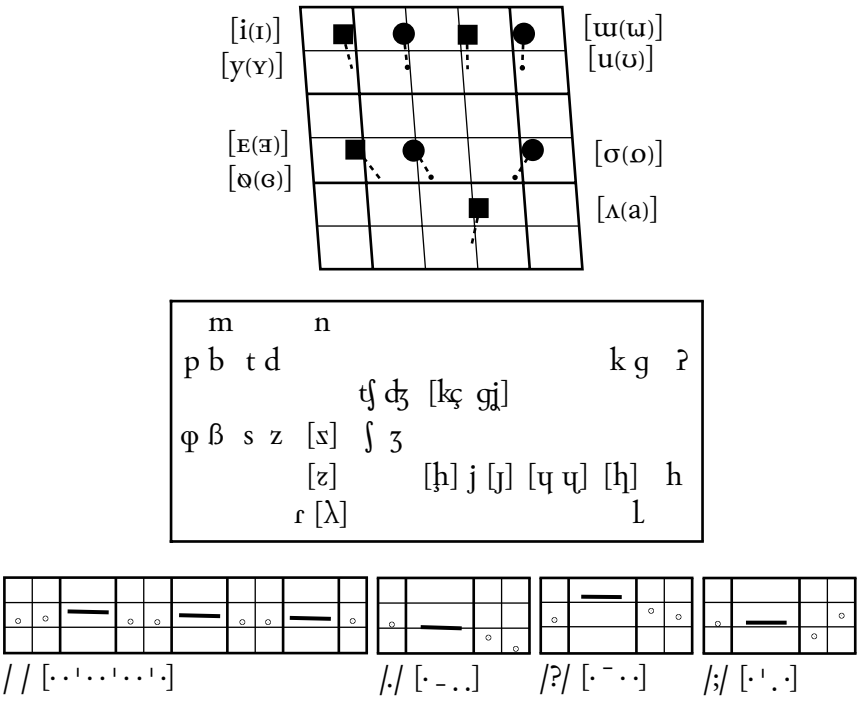


fig 10.20. Persian.

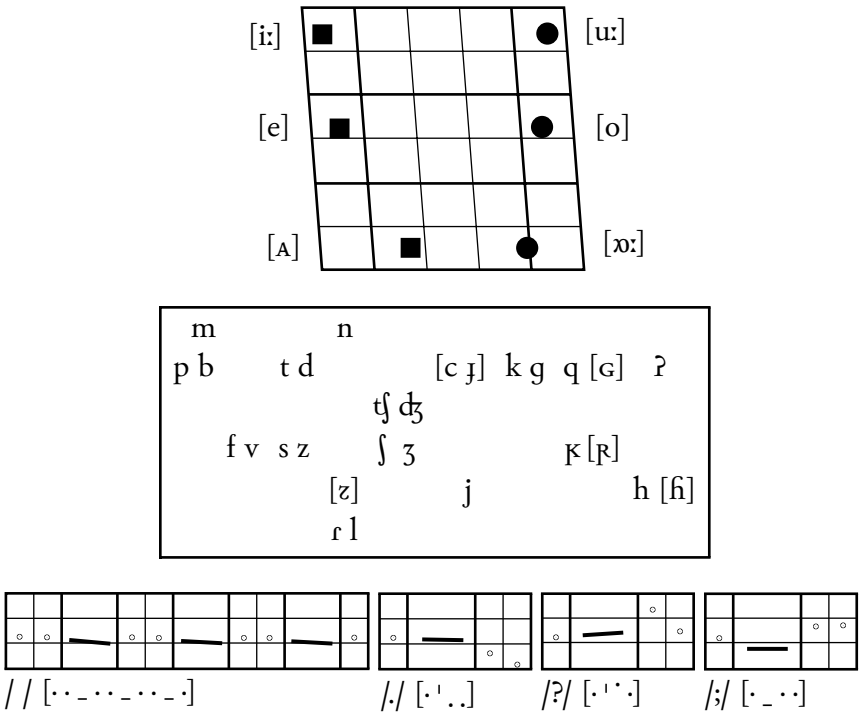


fig 10.21. Hindi.

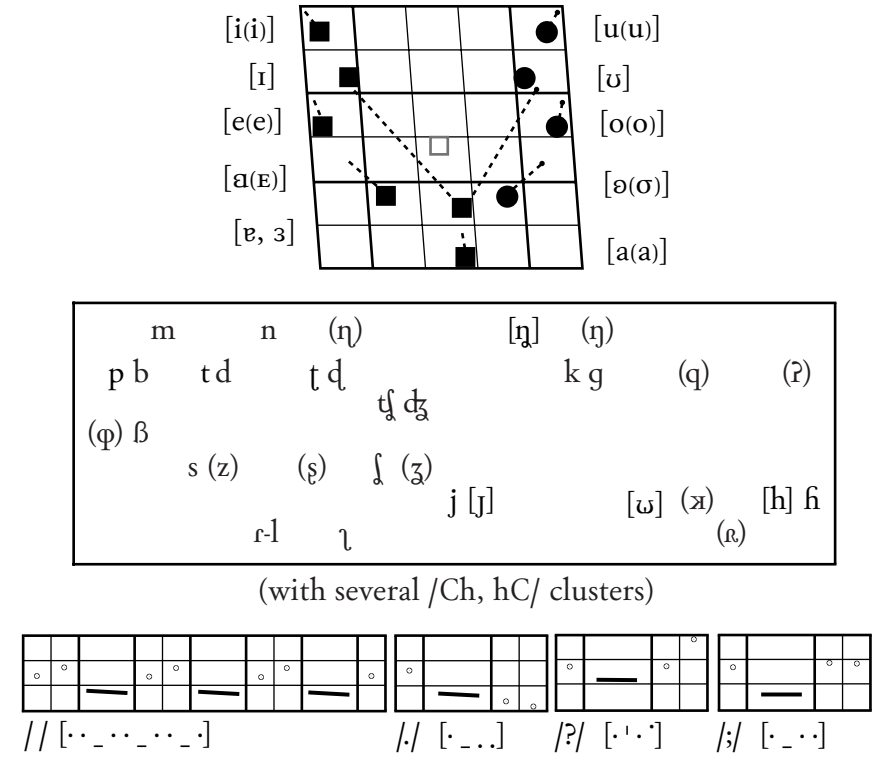
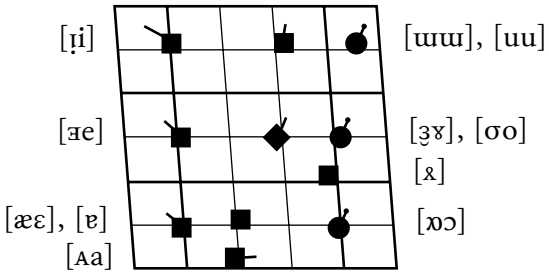


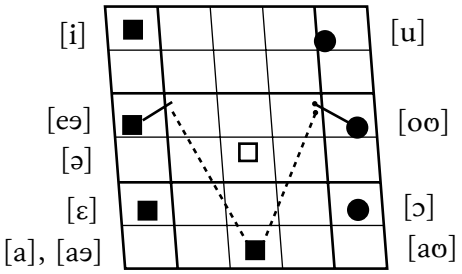
fig 10.22. Vietnamese.



m	n	ɲ	ŋ	[n̂]
p b	t d		k	[k̟] [ʔ]
	ʈ ɖ			
f v s z	ʂ ʐ	ʒ	x ɣ	
				w h
	l			

(with /t, th/ and [ʾb, ʾd] and tonemes not shown here)

fig 10.23. Burmese.



m	n	ɲ	ŋ
p b	ʈ ɖ		k g ʔ
tθ dð		ʧ ʤ	
[θ] s [ð] z		ʃ (ʒ)	
	(z)	j [ɻ]	w h
	l		

(with /Ch, hC/ clusters and tonemes not shown here)

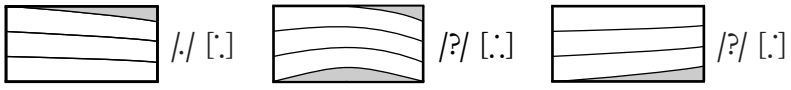


fig 10.24. Chinese.

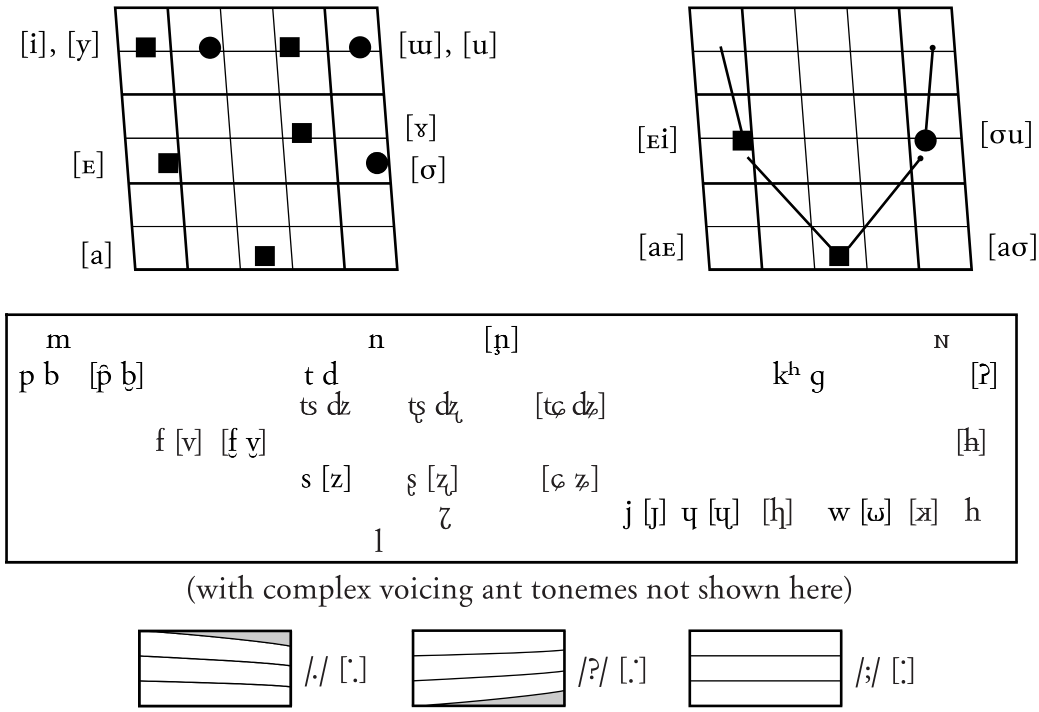


fig 10.25. Korean.

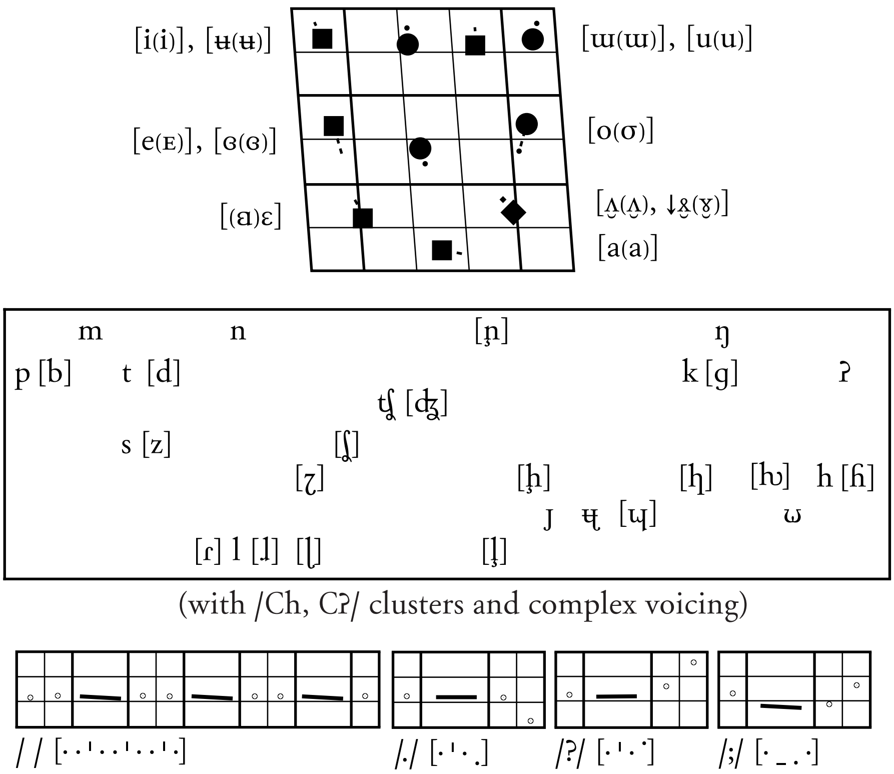
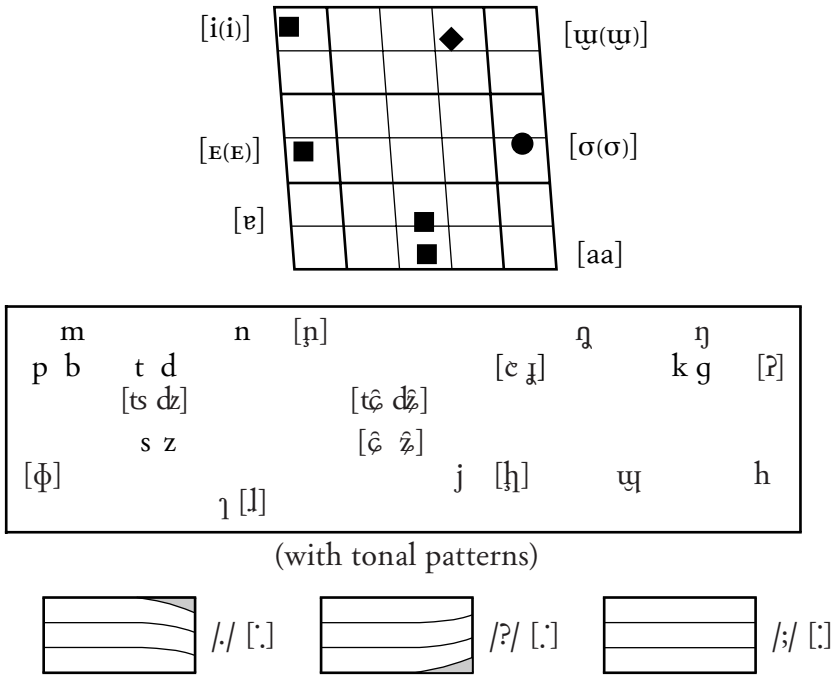


fig 10.26. Japanese.



Main consonant orograms

fig 10.27.1. Main nasals.

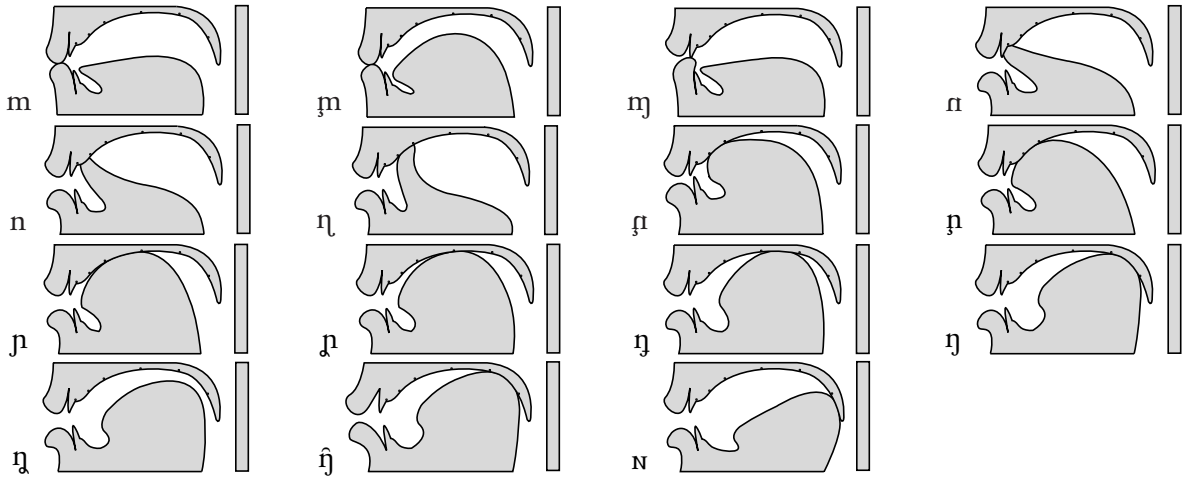


fig 10.27.2. Main stops.

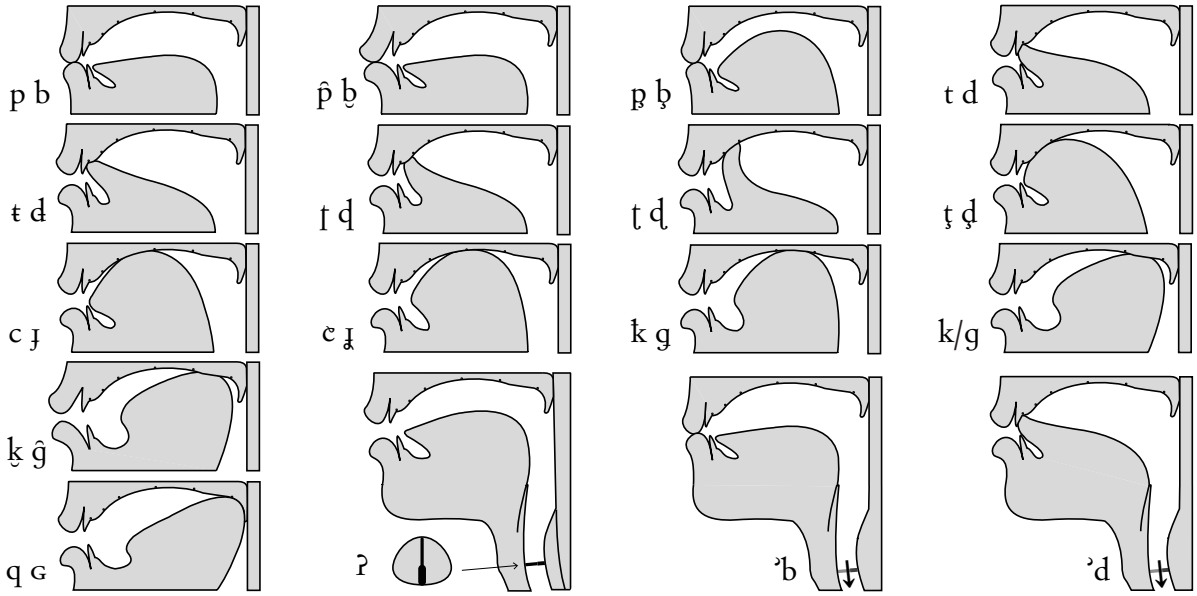


fig 10.27.3. Main stop-strictives (or 'affricates').

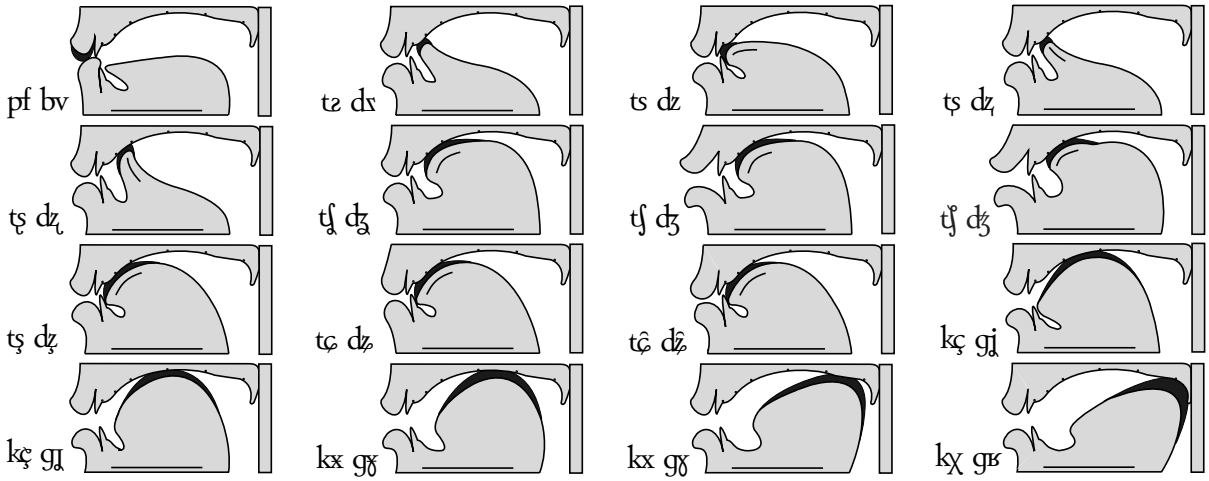


fig 10.27.4. Main constrictives (or 'fricatives').

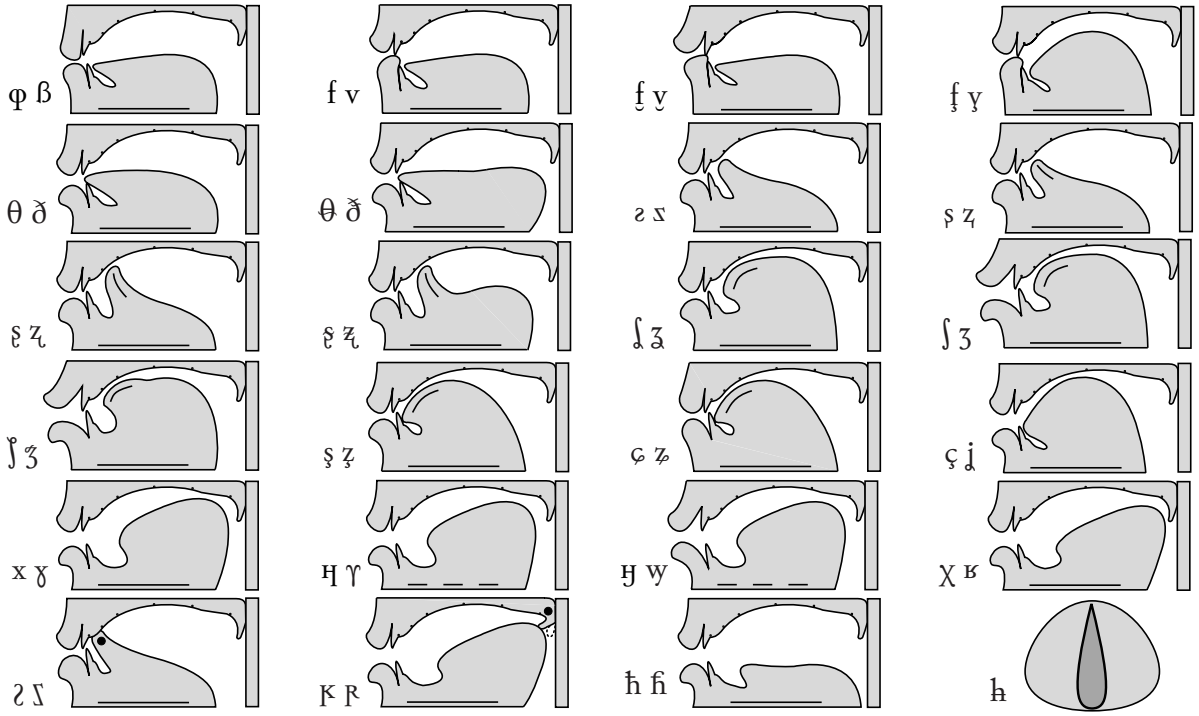


fig 10.27.5. Main approximants (and semi-approximants).

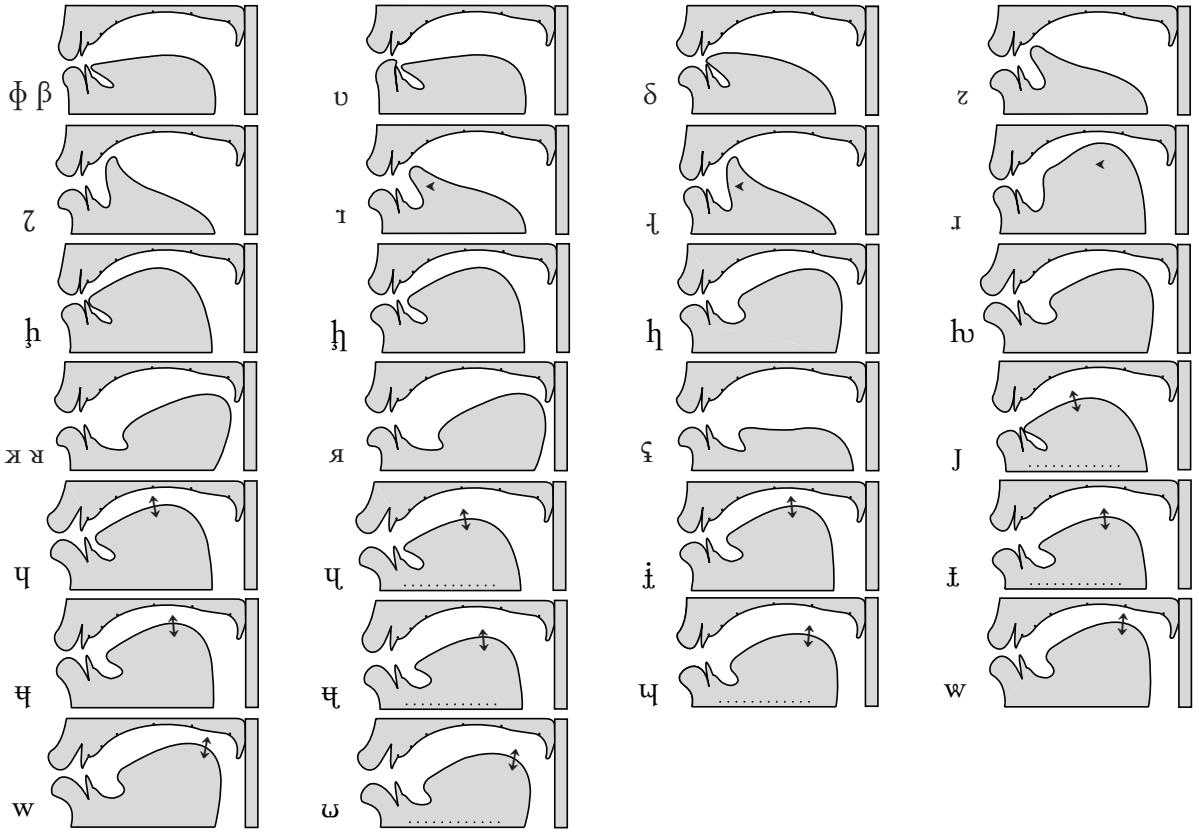


fig 10.27.6. Main 'rhotics'.

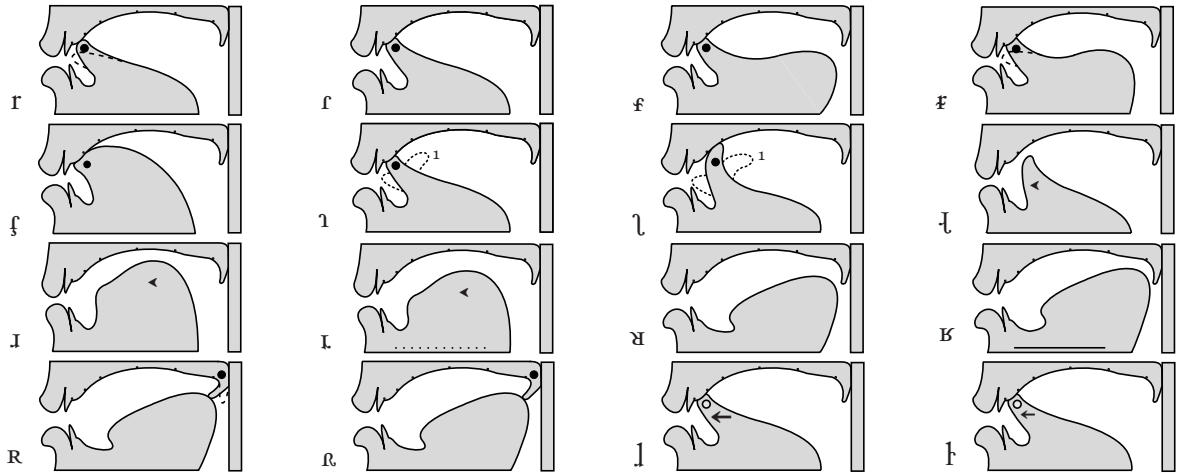
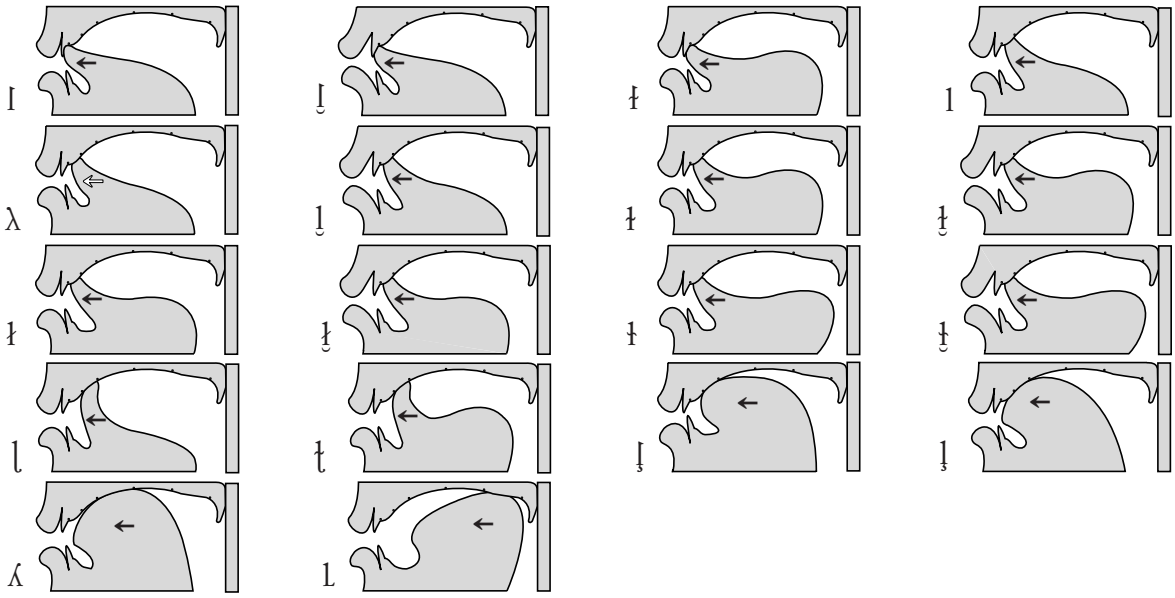


fig 10.27.7. Main laterals.



11.
Annotated Bibliography

A number of our examples have been taken also from some of the few titles listed in this Bibliography, but they have been fully transcribed phonotonetically, following our *canIPA* method. Of course, many less useful (or, rather, useless) books and articles do not appear here.

Allen, W.S. (1987³) *Vox Graeca*. CUP; a constantly mentioned thick book, but rather simple; non-*IPA*.

Bouquiaux, L. *et alii* (1976) *Initiation à la phonétique*. Paris: puf/orstom; a vinyl record to be used in connection with Thomas *et alii*; expanded *IPA*.

Canepari, L. (1983) *Phonetic Notation / La notazione fonetica*. Venezia: Cafoscarina; with 2 enclosed audiocassettes; almost *canIPA*.

— (1986³) *Italiano standard e pronunce regionali* ['Standard and Regional Italian Pronunciations']. Padua: Cleup; with 2 enclosed audiocassettes, the second one is about regional pronunciations, aslo downloadable from our *canipa.net* website; almost *canIPA*.

— (2000/2009) *Dizionario di pronuncia italiana* ['Italian Pronouncing Dictionary']. Bologna: Zanichelli; 60,000 forms with transcription and pronunciation variants, which correspond at least to 180,000 actual words; with many variants and degrees of acceptability: *modern* neutral, *traditional* neutral, *acceptable*, *tolerated*, *slovenly*, *intentional* and *lofty*; *canIPA*.

— (2004²) *Manuale di pronuncia italiana* ['Handbook of Italian Pronunciation']. Bologna: Zanichelli; with 2 enclosed audiocassettes, aslo downloadable from our *canipa.net* website; it introduces *modern* neutral pronunciation, in addition to the *traditional* one, besides other types, including 22 regional koinés; *canIPA*.

— (2007) *Pronunce straniere dell'italiano – ProSIt* ['Foreign Pronunciations of Italian']. München, Lincom; precise descriptions of the foreign accents of 43 language groups, not only European, with intonation and more or less marked internal variants; *canIPA*.

— (2007²) *A Handbook of Pronunciation. English, Italian, French, German, Spanish, Portuguese, Russian, Arabic, Hindi, Chinese, Japanese, Esperanto.* München: Lincom; *canIPA* transcriptions, as in this book.

— (2007) *Natural Phonetics & Tonetics. Articulatory, auditory, and functional.* München: Lincom; updated edition of previous title; the first part gives a complete

presentation of the *canIPA* method and symbolization; while, the second part provides accurate phonosyntheses of 241 living languages and 71 dead ones; on our website, the latter are 81, freely downloadable.
— (2016²) *English Pronunciation & Accents*. München: Lincom; with more than 200 different accents [L1: 121 native with variants], bilingual [L2: 63], foreign [LS: 30]; *canIPA*.
— (2016²) *German Pronunciation & Accents*. München: Lincom; neutral, mediatic, traditional, international, regional and foreign accents, not only in Germany, Austria and Switzerland; *canIPA*.
— (2017) *French Pronunciation & Accents*. München: Lincom; neutral, mediatic, traditional, international, regional and foreign accents, not only in France; *canIPA*.
— (2017) *Portuguese Pronunciation & Accents*. München: Lincom; neutral, mediatic, traditional, and international pronunciations, 22 regional and several foreign accents; *canIPA*.
— (2018) *Italian Pronunciation & Accents*. München: Lincom; neutral, traditional, mediatic pronunciations, with 22 regional and 43 foreign accents, not only European, with intonation and more or less marked internal variants and subvariants, with further chapters on Italian dialects, Latin and other diachronic stages, and many downloadable sound files from our *canipa.net* website; *canIPA*.
— (2019) *Hebrew Pronunciation & Accents*. München: Lincom; international, neutral, mediatic, traditional pronunciations, with Jerusalem and five 'ethnic' accents, including 40 'return-regional' accents, and a couple of diachronic stages, with counseling by Maya Mevorah; *canIPA*.
— (2020) *Greek Pronunciation & Accents*. München: Lincom; international, neutral, mediatic, traditional pronunciations, regional accents, including diachronic stages, with a chapter on Ancient Greek; *canIPA*.
— (2020) *Persian Pronunciation & Accents*. München: Lincom; communicative, neutral, mediatic, traditional, international pronunciations, with regional and bordering accents; *canIPA*.
— (2021) *Sanskrit Pronunciation & Accents*. München: Lincom; classical neutral pronunciation, with 'modern' regional accents in the Indian subcontinent; *canIPA*.
— (forth.) *Italian Pronouncing Dictionary | Dizionario di pronuncia italiana*. Rome: Aracne; updated and expanded full version of the 2000/2009 *DiPI* edition; *canIPA*.
— (forth.) *Latin Pronunciation & Accents*. München: Lincom; with different ancient accents and 'modern' national ones; *canIPA*.
— & Balzi, F. (2016) *Turkish Pronunciation & Accents*. München: Lincom; neutral, mediatic and international pronunciations, and regional accents; *canIPA*.
— & Cerini, M. (2016²) *Dutch & Afrikaans Pronunciation & Accents*. München: Lincom; neutral, mediatic, traditional, international, and regional accents, not only in the Netherlands, Flanders, and South Africa; *canIPA*.
— & — (2017²) *Chinese Pronunciation & Accents*. München: Lincom; neutral and mediatic Mandarin, with 10 regional and Taiwanese accents; *canIPA*.
— & — (2020²) *Arabic Pronunciation & Accents*. München: Lincom; neutral and

mediatic accents, including 'regionational' accents; *canIPA*.
— & Giovannelli, B. (2012[4]) *La buona pronuncia italiana del terzo millennio* ['Good Italian Pronunciation for the Third Millennium']. Rome: Aracne; neutral pronunciation, with a CD containing recordings, also downloadable from the *canipa.net* website; *canIPA*.
— & Maggi, F. (forth.) *Latin Pronouncing Dictionary*. Rome: Aracne; presented and realized according to useful phonic principles; *canIPA*.
— & Miotti, R. (forth.) *Spanish Pronunciation & Accents*. München: Lincom; neutral, mediatic, traditional, international, and regional accents, not only in Spain and Latin America; English version corresponding to Miotti & Canepari's *Pronunciación y acentos del español* ; *canIPA*.
— (forth.) *Catalan Pronunciation & Accents*. München: Lincom; neutral, and mediatic pronunciations, with regional accents; *canIPA*.
— & Miscio, F. (2017[2]) *Japanese Pronunciation & Accents*. München: Lincom; neutral, mediatic and international pronunciations, and 20 regional accents; *canIPA*.
— & — (2018) *Japanese Pronouncing Dictionary. From Transliteration to Phonotonetics*. München: Lincom; *canIPA*.
— & Pugliese, M. (2021) *Galician Pronunciation & Accents*. München: Lincom; neutral, mediatic pronunciations, and regional accents; *canIPA*.
— & Sharma, G. (2017[2]) *Hindi Pronunciation & Accents*. München: Lincom; neutral, mediatic and international pronunciations, and 16 regional accents; *canIPA*.
— & Vitali, D. (2018) *Russian Pronunciation & Accents*. München: Lincom; neutral, mediatic, traditional, international, and some regional accents; *canIPA*.
— (forth.) *Romanian Pronunciation & Accents*. München: Lincom; neutral, and mediatic pronunciations, with regional accents; *canIPA*.
Catford, J.C. (1988) *A Practical Introduction to Phonetics*. Oxford: Clarendon Press; guided drills to develop phonetic kinesthesia, to be performed accurately, step by step; however, the 2001 edition should be avoided because of too many technical problems during its unsuccesful updating; *IPA*.
Chapman, W.H. *et alii* (1988[3]) *Introduction to Practical Phonetics*. Horsleys Green: Summer Institute of Linguistics; substantially *IPA*.
Daitz, S.G. (1984[2]) *The Pronunciation and Reading of Ancient Greek*. London: Norton; booklet and cassette with cartoon-like effect, and not without phono-mistakes; *IPA* is only listed.
Duden Aussprachewörterbuch (2015[7], 1962[1]) Berlin: Dudenverlag; the 'DUDEN *6*'; also gives person, family, and place names belonging to various languages, with their original pronunciation, but unfortunately, with *intra*linguistic rather than *inter*linguistic transcriptions, and sometimes in an outdated style; *IPA*, with /a, a:/, but /r/, however, now, at last, it accepts '/r/-'vocalization' also after short vowels, although it continues using only /r/; nothing on intonation, and a very short section on reduced forms; *IPA*.

However, its first edition was our best 'friend' during school time, bringing there interesting books on languages and phonetics, rather than the boring expected ones, not to waste precious time. Among the preferred books there were various Linguaphone courses –set up by renowned phoneticians and also recorded by se-

lected radio speakers– which had a whole disc out of sixteen devoted to the phonetics of the language taught, with full *IPA* transcriptions of the various examples, accurately chosen to show the phonic structure; later on, we used those same lists, adequately completed, also for our studies on the different accents, including the social, regional, and foreign ones. Unfortunately, after the sixties, those courses became like all others, practically with no attention to phonetics.

Feyerabend, K. (2005) *Pocket Greek Dictionary. Classical Greek-English*. Berlin: Langenscheidt.

Goldstein, D. (2014) 'Phonotactics' in *Encyclopedia of Ancient Greek Language and Linguistics*. Leiden: Brill. Vol. 3, 96-7.

Guglielmi, J-P. (2006) *Il greco antico*. Chennevières-sur-Marne: Assimil; with unsatisfactory, 'modern', sound files not fit for *real* pronunciation; no real phonic transcriptions.

Handbook of the International Phonetic Association (1999). Cambridge: C. Univ. Press; although it should be a reliable and advisable guide for transcribing and describing the pronunciation of languages, it honestly cannot be considered such; *IPA*.

Haudricourt, A.G. & Thomas, J.M.C. (1976) *La notation des langues. Phonétique et phonologie* ['Language notation. Phonetics and phonology']. Paris: Inst. Géographique National; with 2 enclosed vinyl records; adapted *IPA*.

Jones, D. (1956) *Cardinal Vowels*. London: Linguaphone Institute; 2 [78 rpm] records with booklet; now face A of both records are downloadable; *IPA*.

— (1967[3]) *The Phoneme: its Nature and Use*. Cambridge: Heffer; still better than so many more or less recent productions (which woolily try to deal with this serious and important subject, but only ridiculing it, continually 'inventing' absurd phonological theories); *IPA*.

Laver, J. (1980) *The Phonetic Description of Voice Quality*. Cambridge: CUP; with a non-enclosed audiocassette; *IPA*.

Lejeune, M. (1955[2]) *Traité de phonétique grècque*. Paris: Klincksieck; non-*IPA*.

— (1987) *Phonétique historique du mycénien et du grec ancien*. Paris: Klincksieck; non--*IPA*.

Miotti, R. & Canepari, L. (forth.) *Pronunciación y acentos del español* ['Spanish Pronunciation & Accents']. München: Lincom; neutral, mediatic, traditional, international, and regional accents, not only in Spain and Latin America; Spanish version of Canepari & Miotti's *Spanish Pronunciation & Accents*; *[can]IPA*.

— (forth.) *Spanish Pronouncing Dictionary/Diccionario de pronunciación española*. München: Lincom; *[can]IPA*.

Morwood, J & Taylor, J. (2002) *Pocket Oxford Classical Greek Dictionary*. Oxford: OUP.

Renna, E. (2018) *Grammatica greca*. Napoli: EdiSES.

Smalley, W.A. (1964[2]) *Manual of Articulatory Phonetics*. Terrytown (NY): Practical Anthropology; with 33 non-enclosed [18 cm, 19 cm/s] reels, lasting 32 hours; non-*IPA*.

Steriade, D. (1982) *Greek prosodies and the nature of syllabification*. PhD thesis: MIT.

Thomas, J.M.C. *et alii* (1976) *Initiation à la phonétique* ['Introduction to Phonetics'].

INTERNATIONAL PHONETIC ALPHABET
(official: 1993, corrected in 1996, and updated in 2005)

CONSONANT (PULMONIC)

(Ly@)

	Bilabial	Labiodent.	Dental	Alveolar	Postalveol.	Retroflex	Palatal	Velar	Uvular	Pharyng.	Glottal
Plosive	p b			t d		ʈ ɖ	c ɟ	k g	q ɢ		ʔ
Nasal	m	ɱ		n		ɳ	ɲ	ŋ	ɴ		
Trill	ʙ			r					ʀ		
Tap or Flap		ⱱ		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.				l		ɭ	ʎ	ʟ			

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

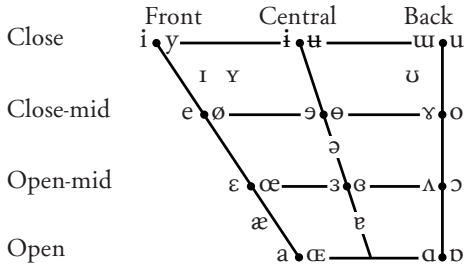
CONSONANTS (NON-PULMONIC)

Clicks	Voiced implosives	Ejectives
ʘ Bilabial	ɓ Bilabial	’ as in:
| Dental	ɗ Dental/alveol.	pʼ Bilabial
! (Post)alveolar	ʄ Palatal	tʼ Dental/alveol.
ǂ Palatoalveolar	ɠ Velar	kʼ Velar
‖ Alveol. lateral	ʛ Uvular	sʼ Alveol. fricat.

OTHER SYMBOLS

- ʍ Voiceless labial-velar fric.
- w Voiced labial-velar app.
- ɥ Voiced labial-palatal app.
- ʜ Voiceless epiglottal fric.
- ʢ Voiced epiglottal fric.
- ʡ Epiglottal plosive
- ɕ Voiceless alveolo-palatal fric.
- ʑ Voiced alveolo-palatal fric.
- ɺ Voiced alveolar lateral flap
- ɧ Simultaneous ʃ and x
- t͡s Affricates and double articulat. can be represented by two symbols joined by a tie bar if necess.
- k͡p

VOWELS



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

TONES & WORD ACCENTS

LEVEL		CONTOUR	
ő or ˥	Extra-high	ǒ or ˩˥	Rising
ó ˦	High	ô ˥˩	Falling
ō ˧	Mid	ő ˧˥	High rising
ò ˨	Low	ǒ ˩˧	Low rising
ȍ ˩	Extra-low	ô ˦˥˦	Rising-falling

↑ Downstep (relative)
↓ Upstep (relative)
↗ Global rise
↘ Global fall

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

◌̥	Voiceless	d̥ u̥	◌̤	Breathy voiced	b̤ a̤	◌̪	Dental	t̪ d̪
◌̬	Voiced	t̬ s̬	◌̰	Creaky voiced	b̰ a̰	◌̺	Apical	t̺ d̺
◌ʰ	Aspirated	tʰ dʰ	◌̼	Linguolabial	t̼ d̼	◌̻	Laminal	t̻ d̻
◌̹	More rounded	ɔ̹ o̹	◌ʷ	Labialized	tʷ dʷ	◌̃	Nasalized	ẽ õ
◌̜	Less rounded	ɔ̜ o̜	◌ʲ	Palatalized	tʲ dʲ	◌ⁿ	Nasal release	dⁿ
◌̟	Advanced	u̟ o̟	◌ˠ	Velarized	tˠ dˠ	◌ˡ	Lateral release	dˡ
◌̠	Retracted	e̠ i̠	◌ˤ	Pharyngealized	tˤ dˤ	◌ˀ	No audibile rel.	dˀ
◌̈	Centralized	ë ö	~	Velarized or pharyngealized		ɫ ɬ		
◌̽	Mid-centralized	e̽ o̽	◌̝	Raised	e̝ (w̝ = voiced labial-velar fricative)			
◌̩	Syllabic	n̩ ɹ̩	◌̞	Lowered	e̞ (x̞ = voiceless velar approximant)			
◌̯	Non-syllabic	e̯ o̯	◌̘	Advanced Tongue Root		e̘ o̘		
◌˞	Rhotacized	ɚ ɑ˞	◌̙	Retracted Tongue Root		e̙ o̙		

SUPRASEGMENTALS

- ˈ Primary stress
- ˌ Secondary stress: ˌfoʊnəˈtɪʃən
- ː Long aː
- ˑ Half-long aˑ
- ˘ Extra-short ă
- . Syllable break: ɹi.ækt
- | Minor (foot) group
- ‖ Major (intonation) gr.
- ‿ Linking (absence of a break)