

Ancient Greek Pronunciation

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from the book
Greek Pronunciation & Accents

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.

Here, a transliteration is added. Some numbered notes follow, with explanations and some useful examples, although these phonopses are quite concise.

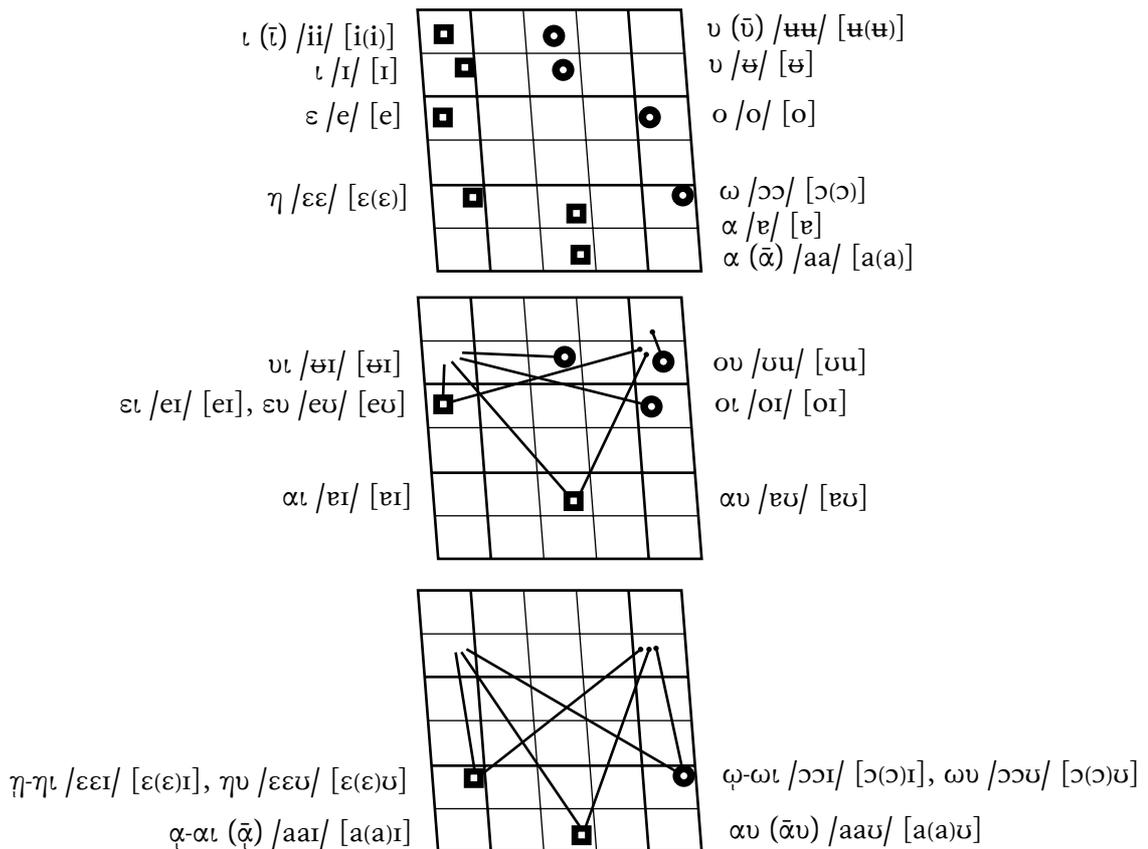
α	<i>a</i>	[e] /e/	ν	<i>n</i>	[n] /n/
	<i>a/ā</i>	[a(a)] ¹ /aa/	ξ	<i>ks</i>	[ks] /k+/s/
ε	<i>e</i>	[e] /e/	π	<i>p</i>	[p] /p/
η	<i>ē</i>	[ε(ε)] ¹ /εε/	ρ	<i>r</i>	[r] /r/
ι	<i>i</i>	[i] /i/	ῥ	<i>rh</i>	[r] /r/
	<i>i/ī</i>	[i(i)] ¹ /ii/	ῥῥ	<i>rrh</i>	[rr] /rr/
ο	<i>o</i>	[o] /o/	σ, -ς	<i>s</i>	[s] /s/ (word-finally, ς)
ω	<i>ō</i>	[ɔ(ɔ)] ¹ /ɔɔ/		<i>s</i>	[z] /s/ + β, γ, δ;
υ	<i>y</i>	[ɥ] /ɥ/ (←[u]) ²		<i>s</i>	[z] /s/ + λ, μ, ν, ρ
	<i>y/ȳ</i>	[ɥ(ɥ)] /ɥɥ/ (←[uu]) ²	τ	<i>t</i>	[t] /t/
β	<i>b</i>	[b] /b/	φ	<i>ph</i>	[ph] /p+/h/
γ	<i>g</i>	[g] /g/; <i>g</i> [ŋ] /n/ + μ, ν (but γν-, <i>gn-</i> [gn] /gn/);	χ	<i>kh</i>	[kh] /k+/h/
	<i>n</i>	[ŋ] /n/ + γ, κ, ξ, χ;	ψ	<i>ps</i>	[ps] /p+/s/
δ	<i>d</i>	[d] /d/	Ϛ	<i>h</i>	[h, V [#] hV] /h/
ζ	<i>z</i>	[z, VzzV] /z, zz/ (←[dz]←[zd]) ²	ϛ		[∅] / / ‘zero’
θ	<i>th</i>	[th] /t/ + /h/	Ϝ	ˊ	[ˊ] /ˊ/ (mid level tone)
κ	<i>k</i>	[k] /k/	ϝ	ˋ	[ˋ] /ˋ/ (low level tone)
λ	<i>l</i>	[l] /l/	Ϟ	ˋ	[ˋ] /ˋ/ (mid-to-low falling tone)
μ	<i>m</i>	[m] /m/	ϟ	ˋ	[ˋ] /ˋ/ (low level weak tone).
Vi Vi		[Vi] /Vi/: αi, ai [ɛi] /ai/; εi, ei [ei] /ei/; οi, oi [oi] /oi/; υi, yi [ɥi] /ɥi/			
Vu Vu		[Vu] /Vu/: αυ, au [ɛu] /ɛu/; ευ, eu [eu] /eu/; ᾱυ, āu [aaυ] /aaυ/; ηυ, ēu [εευ] /εευ/; ωυ, ōu [ɔɔυ] /ɔɔυ/; but ου, ou [ou] /ou/, which is the natural phonic way of showing what different scholars describe as corresponding to /oo, ou, ou, uu/, by optimizing their articulatory space in the vocogram) ²			

Υ Vī [VV_I]³: for our kind of pronunciation, we show these long diphthongs as they really were: η-ηι, ēī [ε(ε)I] /εεI/; α-αι, āī [a(a)I] /aaI/; ω-ωι, ōī [ɔ(ɔ)I] /ɔɔI/ V_IV V_iV [V_IjV] /V_I([#])V/, V_uV V_uV [V_uwV] /V_u([#])V/ (within or between words).

¹ Unstressed ‘long’ vowels become short monophthongs, keeping their normal timbres, [i, ε, a, ɔ, ɯ], 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 ‘←’. Between vowels, ζ was geminated, [zz] /zz/. The previous intermediate stage, [dz] /dz/ (not a stopstricative, [dʒ]), from a former [zd] /zd/, originated by metathesis and made up a consistent series with [ps] /ps/ and [ks] /ks/, 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: ᾶι (for ᾱ-ᾶι; different from Αἶ, αἶ)... In fact, η-ηι, α-αι, ω-ωι, were still ‘long’ diphthongs, as shown: [a(a)I, ε(ε)I, ɔ(ɔ)I]; but, if followed by a vowel, ‘ι’ stood for ‘ι’ [j, ‘j], as in: ῥᾶων *hráion* [ˈraaɔn], κλέϊω *klēiō* [ˈkleiɔ], πατρῶος *patrōios* [ˌpɛ.tɾɔɔ.jos], τῶ ὄντι *tōi ónti* [ˌtɔˈjɔn.tɪ]. For [j, ʃ, w], see § 10. Also see § 15 for /aaI, εεI, ɔɔI/ and their succeeding developments.



m	[ɱ]	n	[ɲ]	[ɲ]
p(h) b	t(h) d		[k(h) g]	k(h) g
(φ)	(θ) s z		(x)	
	[l]	r r-l	[j] (j)	(ʃ) [ʃ]
				[w] (ω) h [h]

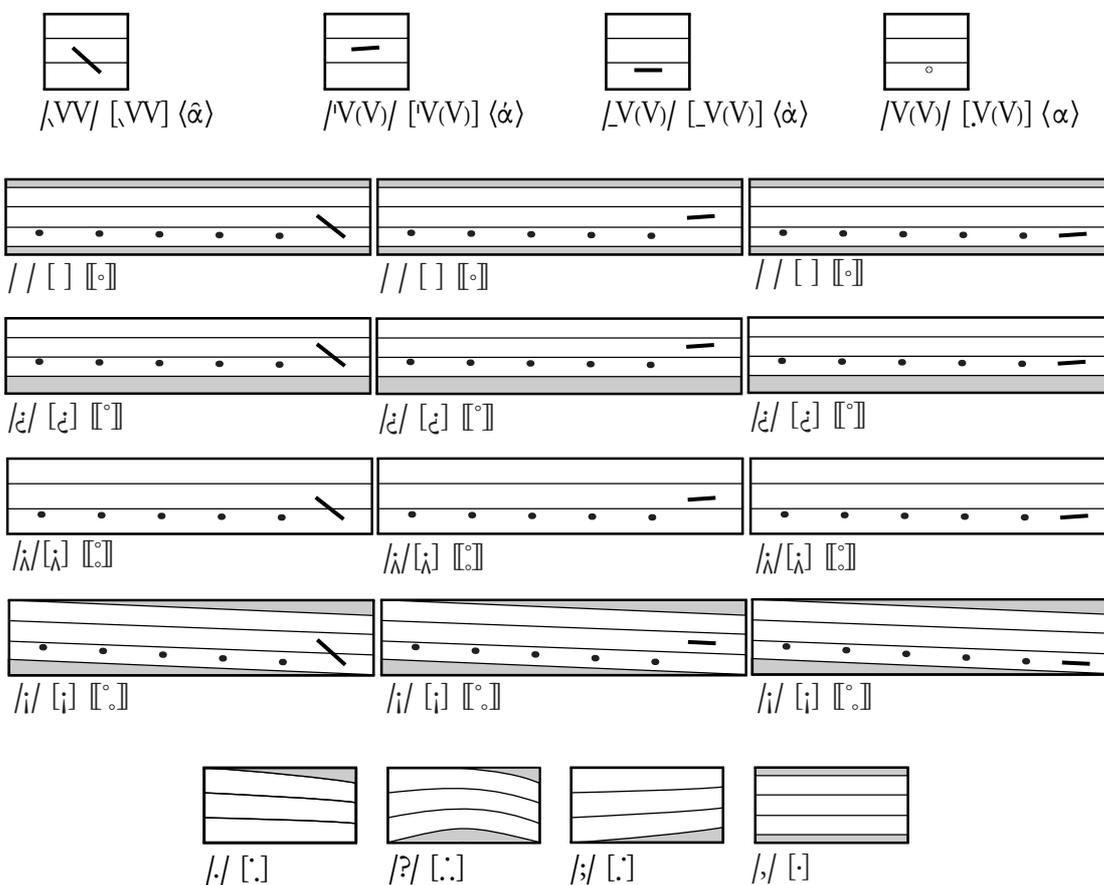
2. Besides, we had $V\grave{i}$ $V\acute{i}$ [$V\grave{i}$] and $V\ddot{u}$ $V\acute{u}$ [$V\ddot{u}$] with independent ι , υ (also stressable, $\acute{\alpha}\acute{\iota}\sigma\sigma\omega$ *aíssō* [$\epsilon^{\prime}i:s,\sigma$]): $\iota\rho\eta\acute{\iota}\omicron\nu$ *hirēion* [$h\acute{i}r^{\prime}e:ei.jon$], $\acute{\alpha}\ddot{u}\tau\mu\acute{\eta}$ *aytmē* [$\epsilon\theta\acute{e}t^{\prime}m\epsilon\epsilon$].

In addition, intervocalic /i, u/ (in /Vi, Vu/ + /V/ sequences, cf the second vocogram) were: [ij, uɰ], ie $V\iota V$ $V\acute{i}V$ [$VijV$]: [ϵijV , ϵijV , $\omicron ijV$, ϵijV]: $\pi\lambda\epsilon\acute{\iota}\omicron\varsigma$ *plēios* [$\pi\lambda e\acute{i}j\omicron:s$]. Also: $V\upsilon V$ $V\acute{u}V$ [$VuɰV$]: [$\epsilon u\omega V$, $\epsilon u\omega V$, $\epsilon\epsilon u\omega V$, $\omicron\omicron u\omega V$]; with $\omicron uV$ *ouV* [$\omicron u\omega V$]: $\beta\omicron\lambda\acute{\epsilon}\upsilon\omega$ *boulēuō* [$\beta\omicron u^{\prime}\lambda e\upsilon,\omega$].

In *diphthongs* the accent mark –much like the possible *breathing* (either ‘rough’, ‘h’ [h, $V^{\#}hV$] /h/, or ‘smooth’, ‘ ’ [∅] //)– 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: $\acute{\alpha}\grave{\iota}\mu\alpha$ *hâima* [$\grave{h}\epsilon i,m\epsilon$]. As we know, usual spelling does not distinguish between short ([$\epsilon, \iota, \upsilon$]) and long ([aa, ii, uu]): α, ι, υ .

To end with, θ, ϕ, χ are voiceless ‘aspirated’ stops; when in sequence, both can be ‘aspirated’, mostly in careful speech: $\delta\acute{\iota}\phi\theta\omicron\gamma\omicron\varsigma$ *diphthongos* [$d\acute{i}p(h).tho\eta.gos$] (colloquially, also [ϕ, θ, x] are possible [$d\acute{i}\phi\theta.ho\eta.gos$]). Notice also that, except for $\gamma\gamma$ *ng* [$\eta\eta g$], doubled consonants are truly geminated (as ζ also was [zz], between vowels): $\beta\acute{\alpha}\lambda\lambda\omega$ *bállō* [$\beta\acute{e}l.l\omicron$], $\acute{\iota}\pi\pi\omicron\varsigma$ *híppos* [$\acute{h}i\pi.pos$], $\pi\epsilon\rho\acute{\iota}\zeta\omega\mu\alpha$ *perízōma* [$\rho e^{\prime}r\acute{i}z,\omega.m\epsilon$].

3. The tonetic illustrations which follow explain the nature of the Greek *accent*. It combined stress (ie intensity) and pitch (ie tonality). Words with a circumflex written accent have a falling movement from a mid pitch to a low one, as shown. Those with an acute written accent have a mid pitch, very slightly ascending. The words with a grave written accent have a low pitch.



Since this highly debated matter is still partially unsettled, and not to complicate things, it is probably better to consider the three stressed tonemic patterns, as shown in the figure.

All these tonetic movements were superimposed on the dotted lines shown in the (larger) tonograms, giving the unmarked four protunes, with theoretically all unaccented syllables.

Of course, they modified those overall structures, by partially raising the pitch on their last syllable.

The first four tonograms show this change with the circumflex accent, [] / / ^, while the middle four ones show it with the acute accent, [] / / ' ; the last four ones show it with the grave accent, [] / / `.

The four tonograms at the bottom of the tonetic illustration show the realizations of the four tunes, with their clear movements, which further modify the tonetic structures just seen.

4. Here is a transcription of the Aesopian fable, which is generally used as an example for all languages dealt with phonetically. Let us carefully consider the nature of our narrow diphthongs (in the vocograms): ει [ei], ου [uu], η-ηι [εει], α-αι [aa], ω-ωι [ωω] (rather than [ee, uu] and [εε, aa, ωω], or [e:, u:] and [ει, αι, ωι]).

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', [V:], instead of real narrow diphthongs, [VV]. We simply show that English '[i:, u:]' are actually /ii, uu/ [ii] and [uu, mu], respectively. Nobody can deny this obvious fact.

Βορέας καὶ Ἥλιος περὶ δυνάμεως ἤριζον· ἔδοξε δὲ αὐτοῖς ἐκεῖνω τὴν νίκην ἀπονείμειν, ὃς ἂν αὐτῶν ἀνθροπον ὀδοιπόρον 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 ἀποκαμῶν ὁ Βορέας τῷ Ἥλιῳ μεταπαρέδωκε. Κάκεινος τὸ μὲν πρῶτον μετρίως προσέλαμψε· τοῦ δὲ ἀνθρώπου τὰ περισσὰ τῶν ἱματίων ἀποτιθεμένου σφοδρότερον τὸ καῦμα ἐπέτεινε, μέχρις οὗ πρὸς τὴν ἀλέαν ἀντέχειν μὴ δυνάμενος ἀποδυσάμενος ποταμοῦ παραρρέοντος ἐπὶ λουτρὸν ἀπήει.

Ἄρ' ἔαδέ σοι ὁ μῦθος; Ἡ βουλόμεθα αὐτὸν πάλιν λέγειν;

[.bo'reas .kɛi'hɛɛ.lios .pɛ.ɾi.dθ'nɛ.mɛɔ 'sɛɛ.ɾiz.zon· 'e.dok.se .dɛv.u.toi.sɛ'kɛi.noɪ .tɛn'nii.kɛ ..nɛ.pɔ.nɛi.mɛi· 'ɦo.sɛ.nɛv.to 'nɛn.θɾo.pɔn ..ɦo.doɪ'pɔ.ro .nɛk'du.ɛi·] .kɛi.ɦo.bo'rea .sɛɾk'sɛ.me.nos .pho.dɾo.sɛn· .tu.u.dɛv.nθɾɔ.pɛvɛn .tɛ.kɦo'mɛ.nu .tɛ.sɛs.θɛɛ.toz .mɛl.lo .nɛ'pɛ.kɛi.to·]

..ɦo.de.ɦɔ.pɔ.tuɪp'su.kɦɔs .kɛ.tɛ.pɔ'nɛu.mɛ.nos· 'ɛ.tɪ.mɛl.loŋ .kɛi.pɛ.ɾɪ.tɔ'tɛ.rɛ .nɛs.θɛɛ.tɛ .pɾo.sɛ'lɛm.bɛ.nɛn· 'ɦɛɔ.sɛ .pɔ.kɛ.mɔɔn .ɦo.bo'reas .toɪ.ɦɛ'lɔɪ .mɛ.tɛ.pɛ.'rɛ.dɔ.kɛ·] .ka.kɛi.nos .to.mɛm.pɾɔɔ.tom .mɛ'tɾɪɔs .pɾo'sɛ.lɛmp.sɛ·] .tu.u.dɛv.nθɾɔ.pɛvɛ .tɛ.pɛ.ɾɪs.sɛ .tɔn.ɦɪ.mɛ'tɪɔ .nɛ.pɔ.tɪ.θɛ'mɛ.nu·] .spho'dɾo.tɛ.ɾoɪ .to.kɛv.mɛɛ 'pɛ.tɛi.nɛ· 'mɛ.kɦɾɪs .ɦu.pɾos .tɛ.nɛ'leɔ .nɛn'tɛ.kɦɛim .mɛ.dθ'nɛ.mɛ.nos·] .ɛ.pɔ.du'sɛ.mɛ.nos .pɔ.tɛ.mɔu .pɛ.rɛɾ'reon.to .sɛ.pɪ.luɔ.tɾo .nɛ'pɛɛ.jɛi·]

ɛ.ɛɪ.ɦɛɛ'dɛ.sɔɪ .ɦo.mɛθ.thos·] ɛ.ɛ.bɪu'lo.mɛ.θɛ· .ɛv.tɔm'pɛ.lɪn 'lɛ.gɛi.n·].

Some considerations about spelling, pitch, music, verse, other literary dialects, and numerals (simply from a 'modern' non-traditional and non-specialistic point of view).

5. 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 centuries-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 'inherited things', without resorting to newer and –allow us to say– more scientific methods, as Natural Phonotactics. 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 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'.

6. As we have already said in § 4, too often even 'modern phoneticians' describe obviously unquestionable diphthongs as if they 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, nowadays)!

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

Sadly enough, in Greece nothing happened similar to what *Pāṇini* did, in ancient India, in earlier times, for rather scientific phonetics. 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/: Ϝ, ϝ. In fact, ϝ had also been used to represent drachma, as a silver coin. In Argolis, ϝ (or its variant Ϝ) 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, ϝ̣, while the other part, Ϝ, ϝ, became the smooth breathing, ϝ̣̄.

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 other hand, communications was certainly not as easy as it is today: they did not have ἰντερνεν (nor ἴντερνεν).

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 re-

alization of vowels in certain initial positions, rather than actually being a real consonantal segment.

7. As a matter of fact, in verse, neither $\acute{}$ /h/, nor the /h/ element in φ , ϑ , χ , were perceived as independent phonemic segments, while, on the contrary, they certainly were: [h], [ph; th; kh, kh]! So, absurdly, initial /h/ was not considered to be a true consonant (both phonically and graphically), 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, ε; o, o/, is currently undervalued, and even not perceived, not only by common people, but also by ‘learned’ people, too, like too many university teachers.

8. Thus, instead of using a convenient and economical consonant (like F , f , or any other, possibly better), a highly inconvenient diacritic was put over lower-case vowels: $\acute{}$ (for all seven vowels). Of course, it was also to be combined with the three kinds of accent, giving $\acute{\circ}$, $\acute{\alpha}$, $\acute{\epsilon}$ – again, for all vowels, including the three ones with the *iota subscript*: $\acute{\iota}$.

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: πf , τf , χf (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. 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 I , i , which they already had in previous times.

So the number of combinations of vowels and diacritics was doubled, quite unnecessarily. Luckily, upper-case vowels were not ‘sentenced’ the same way. In any case, there are 112 useless combinations of vowels and inconvenient diacritics! 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 in identifying words beginning with a vowel, as the rough breathing also did. But such ‘clever expedients’ were due to the technical limits of those times.

9. 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 [ai] (ie *ái*), they are ‘ingenuously’ written like *ai*, as if they were actually [a’i]!

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 [kaθa’re’vusa] is still amazingly written $\kappa\alpha\theta\alpha\rho\epsilon\acute{\upsilon}\omicron\upsilon\sigma\alpha$ (with an accent over what is now a consonant).

10. 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 phonotonic 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 [˘] is certainly excessively too high, while [˙] (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 [˘].

Instead, it means that from a low-pitched unstressed syllable [˘] the voice raises to the mid-pitched stressed syllable [˙] (ie [˘-]), again) for the acute accent, [˙˙] (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, [˘˘].

Arguably, it would be extremely ridiculous to pass to a true high pitch even in Japanese, which has very similar tone patterns. 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, [˙] (ie [˘-]), or falling [˘˘].

11. 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, ε/ and /o, o/.

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

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

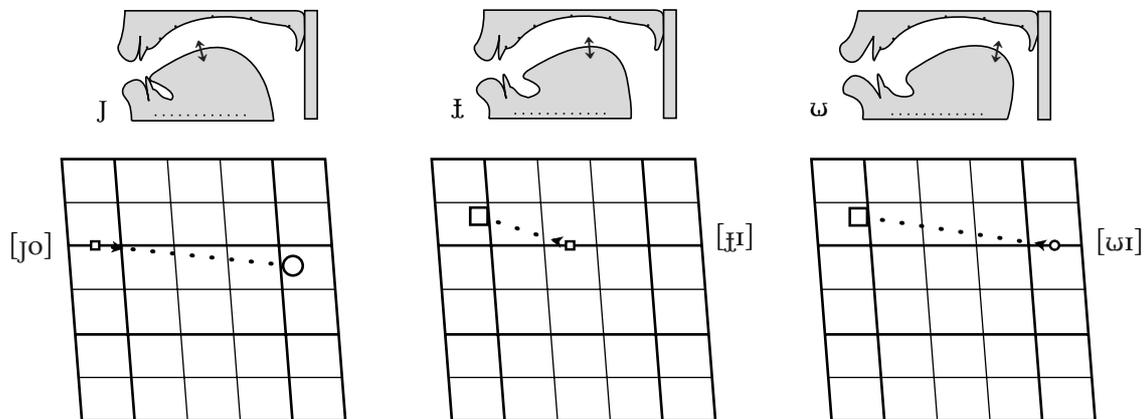
Of course, they were accurately classified and named, otherwise –certainly– they

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 $\pi\alpha\iota\varsigma$ [ˈpɛis], had to be deformed into $\pi\acute{\alpha}\iota\varsigma$ (which could be passed off as a legitimate disyllabic word, something like [ˈpɛ#ɪs], 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 $\mu\eta\ \omicron\upsilon$ [ˈmɛɛɥ], 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 $\theta\epsilon\acute{\omicron}\iota$ [ˈtʰe'oi] or $\pi\acute{\omicron}\lambda\epsilon\omega\varsigma$ [ˈpo.lɛɔs] had to be passed off as monosyllabic or bisyllabic, respectively, having to introduce new consonantal semiapproximant taxophones, as in [ˈtʰɔi, ˈpo.lɔs] (and [ɣ, ω] for 'consonantalized' [a, o], α, ο: [ɣɪ, ωɪ]).



13. Of course, in Natural Phonetics, $\pi\acute{\omicron}\lambda\epsilon\omega\varsigma$ [ˈpo.lɛɔs] is already bisyllabic. In the case of $\theta\epsilon\acute{\omicron}\iota$ [ˈtʰe'oi] (as a monosyllabified word, seen above), the *-oi* and *-ai* endings were sometimes forced to 'become short' (or, rather, to be considered as 'short'). For instance, the *-ai* of the imperative and infinitive forms, $\tau\acute{\iota}\mu\eta\sigma\alpha\iota$ and $\tau\acute{\iota}\mu\eta\sigma\alpha\iota$, had to be considered as ending with something 'monomoraic' like [ɣɪ], just seen, ie [ˈtɪ.mɛ.sɣɪ] and [ˈtɪ.mɛ.ɛ.sɣɪ]; while the optative form, $\tau\acute{\iota}\mu\eta\sigma\alpha\iota$, 'remained normal', ie with a 'bimoraic' ending, [ˈtɪ.mɛ.ɛ.sɛɪ]. Similarly, for $\acute{\alpha}\nu\theta\rho\omega\pi\omicron\iota$, ie [ˈɛn.tʰɾɔ.pɔɪ], as against $\acute{\alpha}\nu\theta\rho\omega\pi\omicron\upsilon$, ie [ɛn.tʰɾɔ.pɥ].

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).

14. 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, ɛɛ, aa, ɔɔ, ɥɥ], not as [i, ɛ, a, ɔ, ɥ] (as in real spoken language, where they still remained different from their short counterparts, [ɪ, e, ɐ, o, ʊ], thanks to their timbres).

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: $\pi\acute{\omicron}\nu\omicron\varsigma$ [ˈpo.nɔs], $\tau\acute{\iota}\mu\acute{\alpha}\omega$ [ˈtɪ.mɛɔ], $\acute{\alpha}\pi' \acute{\epsilon}\mu\omicron\upsilon$ [ˈɛ.pɛ.lmɥ], $\acute{\alpha}\gamma\gamma\acute{\epsilon}\lambda$

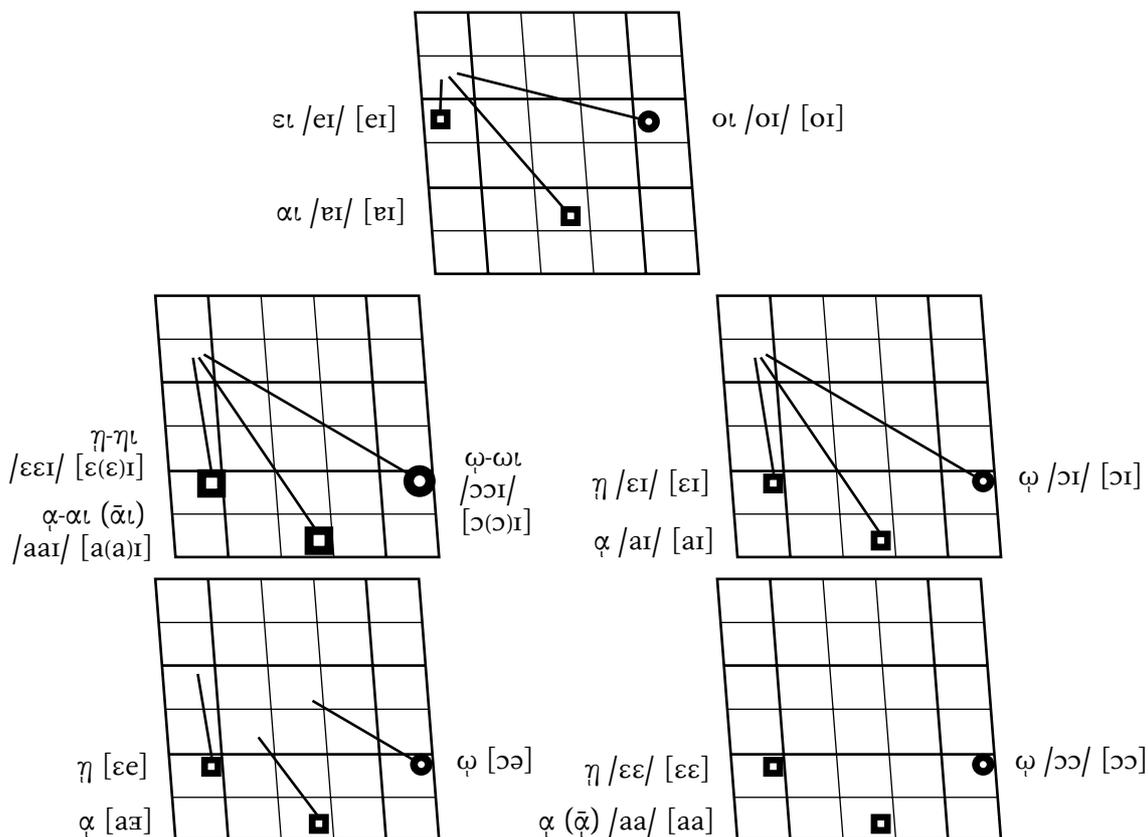
λω [ɛŋ'gɛl.lɔ], πένθος [ˈpɛn.tʰos], πότης [ˈpɔt.tɔs], ἀκτίς [ɛk.tɪs], πέφασμαι [ˈpɛ.pʰɛz.mɛi], βλάπτω [ˈblɛp.tɔ], δάκνω [ˈdɛk.nɔ], μιμνέσκω [ˌmim.nɛs.kɔ], ἄρκτος [ˈɛrk.tɔs], Βάκχος [ˈbɛk.kʰos], Σαπφώ [sɛpˈpʰɔ], συνέρχομαι [sɛˈnɛr.kʰɔ.mɛi], ἐξετάζω [ɛk.sɛˈtɛz.zɔ], ἐπράχθη [ɛˈprɛk.tʰɛ, ɛˈprɛx.tʰɛ], ἐθρέψασθε [ɛtʰrɛp.sɛs.tʰɛ], γέγραφε [ˈgɛ.gɾɛp.tʰɛ, ˈgɛ.gɾɛφ.tʰɛ], τεθνέξω [tɛtʰnɛk.sɔ], ἐσθλός [ɛstʰlɔs].

15. Interestingly, there is a fascinating hypothesis (more likely than not, indeed), which leads us to consider the Hellenistic-Byzantine introduction of *iota subscript* (η, α, ω) as a kind of *diagraphemic* way to hint at a possible *sociophonetic diaphonemic* reality dealing with the change from /εεΙ, ααι, ωωΙ/ [ɛɛΙ, ααι, ωωΙ] ηι, αι, ωι (second vocogram) to their succeeding actual reality, during the Classical period: /εε, αα, ωω/ [ɛɛ, αα, ωω] (fifth vocogram), which coincide with the previous long phonemes.

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 helps to show the difference between the existing ‘short’ diphthongs /ει, ει, οι/ [ɛi, ɛi, oi] ει, αι, οι and the intermediate stage of the ‘long’ (shortened) diphthongs, /ει, αι, οι/ [ɛi, ai, oi] (third vocogram), with clearly *different* first elements, as the third vocogram shows.

The second vocogram gives the real ‘long’ diphthongs, /εεΙ, ααι, ωωΙ/ [ɛɛΙ, ααι, ωωΙ]. Let us pay particular attention to the symbols around the figures, which should be the only elements that differentiate the second and third vocograms. However, contrary to our usual practice, in this case we adopt a newer way of also showing greater length, by means of larger markers, as can be seen, so that the second and third



vocograms appear to be different as far as segmental length is concerned.

The fourth vocogram shows the very likely sociophonic stage of narrow (shortened 'long') diphthongs, [εε, αα, οο], with their second elements pointing to /ɪ/ [ɪ].

16. 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, υ/ into /uu̯, υ̯/ (where /uu, υ/ derived both from /ou/ and contracted or compensatory lengthened /oo/, but were still different from /ɔɔ/), other dialects kept /uu, υ/. In addition, Attic maintained /h/, while, for former /VssV/ it had three possibilities: /VssV, VsV, VttV/.

Generally, *Ionic* changed /uu, υ/ into /uu̯, υ̯/, /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 /εε/ (sometimes into /ii/); contracted /ee/ and /oo/ became /εε, οο/, 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 [jv̥, jo] instead of /ea, eo/ for metrical reasons. Besides, it kept [zd, ss].

17. 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', ς', ζ', η', θ', ι' (ie 1-10), ια', ιβ', ιγ', ιδ', ιε', ις', ιζ', ιη', ιθ' (ie 11-19), κ', λ', μ', ν', ξ', ο', π', ϑ' (ie tens from 20 to 90), ρ', σ', τ', υ', φ', χ', ψ', ω', ϝ' (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), ϝξη' (ie 968), γχπγ' (ie 3683).

Certainly, 'creations' like θ, ι (ι), α (α), β, φ (φ), ς (ς), β, γ (γ), δ (δ), ς (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 (*polypus* /'pɔlɔpəs/, 'many' & πούς 'foot') is certainly not as precise as οκτώπους (*octopus* /'ɔktɔpəs/, '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'!

18. Here are some sentences illustrating the use of intonation in classical Greek, following our reconstruction, shown in § 3-4.

Βουλοίμην ἄν ἑλληνίζειν ἐπίστασθαι.
[buˈloi.me.nan .hel.leˈnizzei .neˈpɪs.təs.thɛiː]
(I'd like to speak Greek well)

Ἴσμεν τί λέγειν βούλη.
[ɪz.meɪn .tiˈle.geim ˈbuː.leiː]
(We know what you mean)

Χάριν σοι ὅτι πλεῖστον ἔχω.
[ˈkʰɛ.rɪɪ.soi ˈho.tɪ .pleɪs.to ˈne.kʰɔːː]
(Thank you very much)

Τί δοκεῖς περὶ τούτου;
[ɪ.tɪ .do.kɛɪs .pe.rɪˈtuː.tuːː]
(What do you think about it?)

Πῶς ἔχεις τήμερον;
[ɪ.pɔˈseɪ.kʰɛɪs ˈtɛɛ.me.rɔnːː]
(How are you feeling today)

Ποῦ ἴμεν;
[ɪ.pɔɪˈɪ.meɪnːː]
(Where are we going?)

Ἄρ' ἑλληνίζεις;
[ɪ.aar .hel.leˈnizzeɪsːː]
(Can you speak Greek?)

Ὁ σὸς ἀδελφὸς καταλαμβάνει τούτο;
[hoː.sɔ.sɛ.del_pʰɔs .kɛ.tɛ.lɛmˈbɛ.neɪ.tuː.toːː]
(Does your brother understand it?)

Αὐτὸς ἰκνεῖται αὔριον;
[ɪ.euː.tɔs .hɪkˌneɪ.tɛɪ ˈɛu.rɪɔnːː]
(Is he coming tomorrow?)

Εἰ μὴ δύνασαι ἐκνεῖσθαι ἐν τῷ ὑστεραίῳ σαββάτῳ, πράγματα σχήσομεν.
[ɛɪ.meˈdʌ.ne.sɛɪ hekˌneɪs.thɛɪ .ɛɪ.tɔɪ.hʊs.te.rɛ.jɔɪ s.ɛbˈbɛ.tɔɪː] ˈpraag.meːtɛs ˈkʰɛɛ.so.mɛnːː]
(If you can't come on Saturday, we'll be in trouble)

Ὅτε ἐφικόμην τὴν λιμὴν, ἡ ναὺς ἀνελεύκει.
[ˈho.te(e).pʰɪˈko.meɪn .tɛn.lɪˈmɛɛnːː] .heː.nɛʊ.sɛ.ne.leˈɛ.kɛɪːː]
(When I came to the harbor, the ship had gone)

Πορεύσομαι δὲ ἐν ἄρματι, ἢ πεζῇ;
[ɪ.pɔˈreʊ.so.mɛɪ .de(e)ˈnɛɪ.mɛ.tɪː ɪ.ɛ.pɛzˈɛɛɪːː]
(Shall we go by coach, or on foot?)

Εἰσί· ἓν, δύο, τρία, τέσσαρες, πέντε.
 [eɪ.sɪː ˈhɛn ˈdʰoː ˈtriː ˈtes.sɛ.resː ˈpɛn.teː]
 (There are:one, two, three, four, five)

Εἰ μὴ δύνασαι ἐκνεῖσθαι ἐν τῷ ὑστεραίῳ σαββάτῳ, οὐδὲν ἔσται πρᾶγμα.
 [eɪ.meːdʰe.nɛ.sɛi ˌhɛkˌneɪsˌθɛɪ ˌɛn.tɔɪ.hʊs.te.rɛ.jɔɪ s.ɛbˈbɛ.tɔɪ | .su.de.nɛs.tɛɪˈpraɑg.mɛː]
 (If you can't come on Saturday, there's no problem)

Πορεύσομαι ἐν ἄρματι, ἢ ἐν νηϊ, ἢ πεζῇ;
 [ɛ.pɔˈreus.o.mɛ.jɛ ˈnɛɪ.mɛ.tɪː ɛˌɛɛnne.ɪː | ɛˌɛ.pɛz.zɛɛɪː]
 (Are we going by coach, by ship, or on foot?)

Τόδε λεξικόν τῷ ὄντι ὠφέλιμόν ἐστι.
 [ˈto.de ˌlɛk.sɪˈkɔn.tɔˈjɔn.tɔˈpʰɛ.lɪ.mo.nɛs.tɪː]
 (This is a very useful dictionary)

Τόδε λεξικόν τῷ ὄντι ὠφέλιμόν ἐστι.
 [ˈto.de ˌlɛk.sɪˈkɔn.tɔˈjɔn.tɔˈpʰɛ.lɪ.mo.nɛs.tɪː]
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Τόδε λεξικόν τῷ ὄντι ὠφέλιμόν ἐστι.
 [ˈto.de ˌlɛk.sɪˈkɔn.tɔˈjɔn.tɔˈpʰɛ.lɪ.mo.nɛs.tɪː]
 (This is a very useful *dictionary*)

Τόδε λεξικόν τῷ ὄντι ὠφέλιμόν ἐστι.
 [ˈto.de ˌlɛk.sɪˈkɔn.tɔˈjɔn.tɔˈpʰɛ.lɪ.mo.nɛs.tɪː]
 (This is a *very* useful dictionary)

Τόδε λεξικόν τῷ ὄντι ὠφέλιμόν ἐστι.
 [ˈto.de ˌlɛk.sɪˈkɔn.tɔˈjɔn.tɪ ɫɔˈpʰɛ.lɪ.mo.nɛs.tɪː]
 (This is a very *useful* dictionary)

Οὐ δῆτα, εἶπε, οὐκ ἔπραξα τούτο.
 [ˌuː.dɛɛ.tɛː ɪˌɛɪ.pɛː | .suˈkɛ.pɾɛk.sɛ.tuː.tɔː]
 (No, he said, I haven't don it)

Ναὶ δῆ, ὦ φιλότῃς.
 [ˌnɛɪˈdɛɛː ɪˌɔ.pʰɪˈlɔ.tɛsːː]
 (Of course, my dear)

Ναὶ δῆ, ὦ φιλότῃς. Αὔριον δέξῃ ἐμὸν δῶρον.
 [ˌnɛɪˈdɛɛː ɪˌɔ.pʰɪˈlɔ.tɛsːː | ˈɛu.ɾɪɔn ˈdɛk.sɛ.jɛ ˌmoɪˈdɔː.rɔnːː]
 (Of course, my dear. Tomorrow you'll have a present)

Ναὶ δῆ, ὦ φιλότῃς, αὔριον δέξῃ ἐμὸν δῶρον.
 [ˌnɛɪˈdɛɛː ɪˌɔ.pʰɪˈlɔ.tɛsːː | ɛu.ɾɪɔn ˈdɛk.sɛ.jɛ ˌmoɪˈdɔː.rɔnːː]
 (Of course, my dear, tomorrow you'll have a present)

Ἐπ' ἀληθείας, εἶπε, ἀπορίας τινᾶς ἔχω.
 [e.pɛˈlɛˌθɛ.jɛsː ɪˌɛɪ.pɛː | .ɛ.pɔˈɾɪɛs.tɪ.nɛˈsɛkʰɔːː]
 (As a matter of fact, he said, I'm not at all sure)

ᾠ φιλότης, ἄρ' οὐ ἀναμιμνήσκη, ὅτι ἐβλέψαμεν ἐκείνον πίνακα ἐν τῇ παρελθόντι ἐβδομάδι ἐβλέψαμεν;

[l.ɔ.phi'lɔ.tes·] ζ.aa.γυε .νε.μιμ'νεεις.κει· ζ. ho.tie'blep.se.me· ζ.ne'kei.nom 'ρι.νε.κβ·
l.eπ.τει.πε.ρεl'thoπ.τι .heb.do'me.dɪr· ζ.e'blep.se.men:.]

(May dear, don't you remember we saw that picture last week?)

Ἵνα τί εἴρηκας «μοι μέλει μηδέν», παρ' ἔματόυ αἰτῶ, τοῦναντίου ἀληθεύοντος;

[ç'i.ne .ti'ei.re.kes· 'moi'me.lei .me'den:' l.pe.re.me.tu .ei.tɔɔ·] ζ.tu.neπ'tiu.we .le'the·
.woπ.tos:.]

(Perché hai detto «non m'importa», mi domando, se è vero il contrario?)

(Why did you say 'I don't mind', I wonder, when the opposite is true?).

19. Here is a list of about a hundred famous sayings in classical Greek, although a few do not belong to that period (5-4th c). They are often used when speaking English. They are given in our classical pronunciation, followed by the (modern) international one, for a possible 'newer' usage in colloquial language.

We do not translate (nor explain or annotate) them, since it is so easy to find them in the Net, in several languages.

Ἄγεωμέτρητος μηδεῖς εἰσὶτω [e.geɔ'me.tre.tos· me'dei .sei'si.tɔ:] ([ajεσ'mεtritos· mi'di si'si'tɔ.])

Ἄετοῦ γῆρας, κορυδοῦ νεότης [e.tu .γεε.ras· ko.rɔ.du .ne.o.tes:] ([ε'tu χε'ras· korid̥u ne'stis.])

Ἄει ὁ θεὸς γεωμετρῆι [e.ei· ho.the.os· geɔ.me'trei:] ([a'i· σθε'os· χεσμε'tri.])

Ἄει κολοῖος παρά κολοῖῳ ἰζάνει [e.ei· ko.lo.jos· pe.re.ko.lo.jɔɔi· hiz'zε.nei:] ([a'i· ko-ljos· pa.rakol̥jɔi· i'zani.])

Ἄει Λιβύη φέρει τι καινόν [e.ei· liβε· phe.rei .ti.kei'non:] ([a'i· li'vii· fe'ri .tice'non.])

Αἰὲν ἀριστεύειν [e.je.ne .riste.wein:] ([ε'ena rist'e'vin.])

Ἄνάγκη δ' οὐδὲ θεοὶ μάχονται [e'neh.kai· du.de .the.oi· me.khoπ.τει:] ([a-nanhka· ðu'de θε'oi· ma'xonte.])

Ἄνδρῶν γὰρ ἐπιφανῶν πᾶσα γῆ τάφος [eπ.dɔɔɔη· γε.ρε.πι.phe.πɔɔη· paase .γεε·
'te.phos:] ([aπ'dɔɔη· χaεpifa-nɔη· 'pasa 'ji· 'ta'fos.])

Ἄνερρίφθω κύβος [e.ne'rifiθo· kɔ.bos:] ([ane'rifiθo 'ci'nos.])

Ἄνθρωπος μέτρον [eπ.thɔɔpos· me'tron:] ([a'nthɔɔpos· 'me'tron.])

Ἄπαξ λεγόμενον [he.paks· le'go.men.on:] ([apaks· le'χσμενον.])

Ἄπο μηχανῆς θεός [e.po.me.khe.nees .the'os:] ([apɔmexa'nis θε'os.])

Ἄπο τοῦ ἡλίου μετᾶστηθι [e.po.tu.ɛ'liu· me'tεste.thi:] ([apɔtu'liu· me'tastiθi.])

Ἄριστον μὲν ὕδωρ [e.ris.tom .men· hɔ.dɔɔr:] ([aristom -men· 'i'dɔɔr.])

Αὐτὸς ἔφα [e.u.to'se.phe:] ([aftɔ'se'fa.])

Βασιλεία τῶν οὐρανῶν [be.si'le.je· to.nu.ɛ.πɔɔη:] ([vasi'lia· to'nura'non.])

Βρῶμα θεῶν [brɔɔme .the'ɔɔη:] ([vɔɔma θε'ɔη.])

Γηράσκω δ' αἰεὶ πολλά διδασκόμενος [ge'ras.ko· de.jei .pol .le .di.das'ko.me.nos:] ([ji·
'raskɔ· ðe'i pɔ'la di'das'kɔmenos.])

Γλαῦκ' Ἀθήναζε [glɛu .ke'theε.nez.ze:] ([glaf ka'θi'naze.])

- Γνώθι σεαυτόν [g.nɔθi.seu'ton.] ([γ'νοθι σεαφ'τον.])
 Γόρδιος δεσμός [gor.dioz.dezmos.] ([γ'σορδ'ιοζ δεζ'μος.])
 Δείμος και Φόβος [dei.mos.kei'pho.bos.] ([δ'ειμος σε'φσνος.])
 Δέσποτα, μέμνεο τῶν Ἀθηναίων [des.po.te.'mem.neo.to.ne.the'ne.jon.] ([δ'εσποτα-
 'μεμνεο τ'σναθ'ι'νεση.])
 Διαίρει και βασίλευε [di'ei.ri.'kei.be'si.le.we'] ([δ'ι'ε'ρι·σενα'si'λεβε.])
 Διπλοῦν ὀρώσιν οἱ μαθόντες γράμματα [di'ploun.ho'row.sin.hoi.me'thon.tez
 'gram.me.te'] ([δ'iplu no'rosin.ima'thontez'grammata.])
 Δῶς μοι πᾶ στῶ και τάν γᾶν κινάσω [dowz.moi.pas.tow.'kei.tan.gaan.ki'ne.sow']
 ([δ'ozmoi pas.to.'setan'gan ci'nasow.])
 Ἐγὼ δὲ ὀφείλω λέγειν τὰ λεγόμενα [e.gɔ.deo'phei.lo'le.gein.te.le'go.me.ne'] ([ε'γσ-
 δ'εσ'φιλω 'ε'γ'ιν·ταλε'γσμενα.])
 Εἰς οἰωνὸς ἄριστος, ἀμύνεσθαι περὶ πάτρης [heiso.jɔ.nos.'e.ristos.'e'mun.es.thei.
 .pe.ri'p'etres.] ([i'si'nos.'aristos..a-mi'nes.thei.p'eri'patris.])
 Ἐκ τῶν ὦν οὐκ ἄνευ [ek.tɔ.nɔn.'ou.ke.neu'] ([ε'κ'τ'σ'νον·ου'κα'νεφ.])
 Ἐν οἶδα ὅτι οὐδὲν οἶδα [he.no.i.de.'ho.ti.uu.den.'oi.de'] ([ε'νοιδα..σ'τιου'δεν..ο'ιδα.])
 Ἐνθεν μὲν Σκύλλην ἐτέρωθι δὲ διὰ Χάρυβδιδος [en.them.mens'kyl.len.'he'te.ro.thi
 .de.di'ne'khe.r'eb.dis.] ([ε'p'them mens-ci'lin·e'te'ro'thi δε'δ'ια 'χα'ρι'νδ'is.])
 Εὐρηκα! [e'u.re.ka] ([ε'ν'ρι'κα])
 Ζῶον δίπουν ἄπτερος [zɔ.jɔn.'di.poun.'ap.te.ros.] ([z'σον·δ'ι'pun·'ap'te'ros.])
 Ἦλθον, εἶδον, ἐνίκησα [el.thon.'ei.don.'e.ni.ke.se'] ([il'thon·i'don·e'n'i'k'isa.])
 Ἦ τάν ἧ ἐπὶ τᾶς [e.ta.ni.'e.e.p'i.taas.] ([i'tan·i'ep'i'tas.])
 Ἦ φύσις οὐδὲν ποιεῖ ἄλματα [he'ph'is'is.'uu.dem.pojer.'hel.me.te'] ([i'fi'sis·u'dem pi'i'
 'almata.])
 Θάλασσα και πῦρ και γυνήν κακὰ τρία [the.las.sa.'kei.pur.'kei.gyn'hen·|ka'ka'tri'a.]
 ('t're.]) ([θa'lasa·se-pir·seji'nin·|ka'ka'tri'a.])
 Θάλαττα, θάλαττα! [the.lət.te.'the.lət.te'] ([θa'lata..|θa'lata.])
 Θάνατος οὐδὲν διαφέρει τοῦ ζῆν [the.natos.'uu.den.di'ep'he.rer.touz'zeen.] ([-θa-
 natos·u'de'p'dja'f'eri·tu'zin.])
 Ἰατρέ, θεράπευσον σεαυτόν [iat're.the're.peu.son.seu'ton.] ([ja't're·θe'rap'ef'son
 seaf'ton.])
 Και σὺ τέκνον; [e.kei.su.'i'z'tek.non.] ([ze'se-si·i'z'tek'non.])
 Κακὸς ἀνὴρ μακρόβιος [ka'ko.se.neer.'mek'ro.bios] ([ka'kos sa'nir·ma'kron'vjos.])
 Κακοῦ κόρακος κακὸν ὦόν [ke'kou'ko.re.kos.'ke'ko.n'oon.] ([ka'ku·k'orakos·ka-
 'kos no'son.])
 Καλλίστη [kel'listi] ([ka'listi])
 Κρήτες ἀεὶ ψεύσται [kre.etes.'e.eip'seu.stei'] ([k'rites·ai'p'sef'ste.])
 Κτήμα ἐς ἀεὶ [k'tem'ne se'ei'] ([k'tima'e sa'i.])
 Κύριε ἐλέησον [k'ur'ie.le.e.son.] ([ci'r'je'leison.])
 Λάθε βιώσας [la.the.'bi'ow.sas.] ([la'the·'vj'os'as.])
 Μέτρον ἄριστον [me.tron.'e.ris.ton.] ([-me'tron·'ariston.])

Τί τάχιστον; Νούς. Διά παντός γάρ τρέχει [χ̣.τι'τε.χ̣his.ton:] 'nus:] .di.e.pɛn_tos.
 ..gɛr'tre.kheɪ:] ([χ̣.ti'ta'çiston.].| 'nus.].| ðjapan'dos. çar'tre'çi..)]

Τὸ γὰρ ἡδύ, ἐάν πολὺ, οὐ τί γε ἡδύ [to_gɛr .hɛ'dɛ̃| .e_em .po'lɛ̃:] .u'ti .gɛ.hɛ'dɛ̃:] ([to-
 'ça ri'di-| e'am pɔ-li-| u'ti jɛi'di..)]

Τὸ δις ἐξαμαρτεῖν οὐκ ἀνδρὸς σοφοῦ [to_di.seḳ .se.mɛr.tein-| .u.kɛn_dros .so.pɛu:]
 ([tɔ'di seksamar'tin-| ,ukap̣idros sɔfu..)]

Τὸ πεπρωμένον φυγεῖν ἀδύνατον [to.pe.pɾɔ'me.nom .phɛ.gɛi .nɛ'dɛ̃.nɛ.ton:] ([to-
 pɛpɾɔ'mɛnɔŋ fi'ji na'di'naton..)]

Υἱὸς μονογενῆς [hɛ_joz .mo.no.ge'neɛs:] ([jɔz monɔjɛ'nis..)]

Ὑστερον πρότερον [hɛs.te.rɔm 'pɾo.te.rɔn:] ([istɛrɔm 'pɾɔtɛrɔn..)]

Φοινικήϊα γράμματα [p̣hoi.ni'kɛɛ.jɛ 'grɛm.mɛ.te:] ([fɪni'çi'a 'grɑ'mata..)]

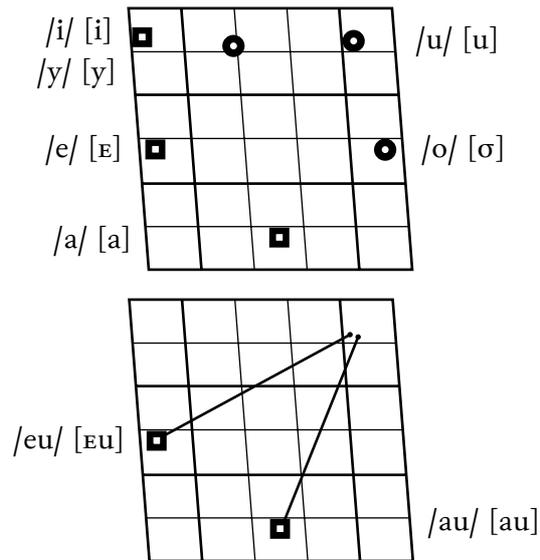
Φρονεῖν γὰρ οἱ ταχεῖς οὐκ ἀσφαλεῖς [p̣hɾo.nɛiɲ .gɛr.hoi.te.kheiṣ .u.kɛs.pɛ'leiṣ:]
 ([frɔ'niɲ çarita'çiṣ u,kasfaḷiṣ..)]

Χαλεπὰ τὰ καλὰ [kɛ.le.pɛ .te.kɛ'le:] ([xalɛ'pa .taka'la..)]

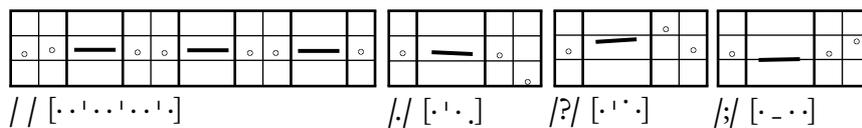
Ψυχῆς ἰατρεῖον [p̣.sɛ'kɛɛ .sia.tɾɛ.jɔn:] ([psi'çi sjɑ'tɾiɔn..)].

20. *Hellenistic Greek* had six short vowels and two diphthongs (which had not yet become /af, av; ef, ev/ yet). 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.

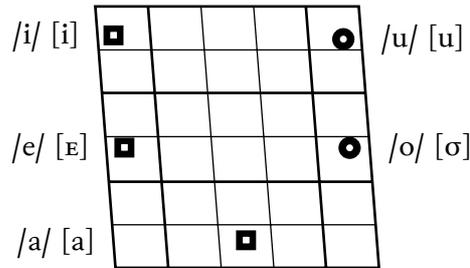


m	[m]	[n]	n	[l]	[ŋ]
p (b)		t (d)		[k (g)]	k (g)
	f v	θ s z		[x ç]	x ç
		[l]	r-l		j

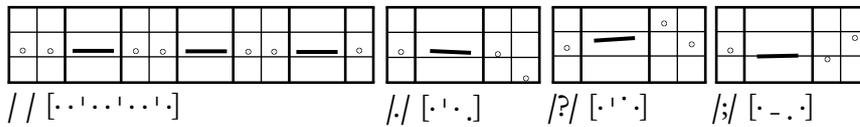


21. *Byzantine Greek* only had the five short vowels typical of present-day Greek. It preserved three xenophonemes and presented some palatalized consonant taxophones.

After nasals, diphonic consonants were already voiced /NC̣/ [ṆC̣], 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].



m	[m]	[ɱ]	n	[ɲ]	[ŋ]	[ŋ]
p (b)		t (d)			[ç ʝ]	k (g)
	f v	θ s	ð z		[ç ʝ]	x ɣ
		[l]	r-l	[ʎ]	j	



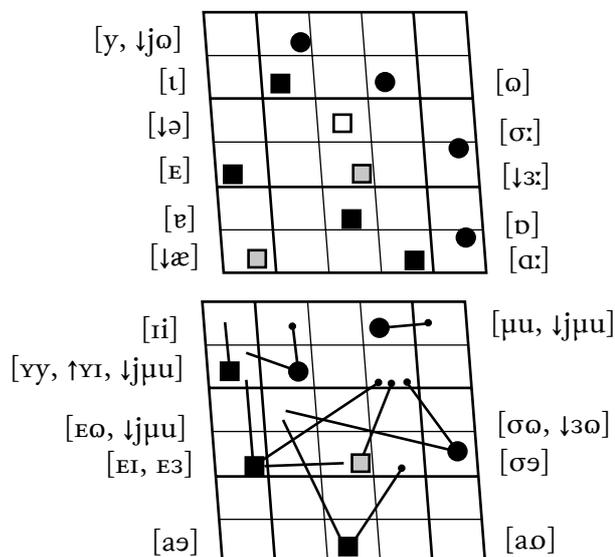
22. *English 'Academic' Greek* is the most possible far away 'reality', in comparison with all other phonopses given in this chapter, it is rather more complicated. All that, in spite of being a simplified version, ie with fewer taxophones than actually used in scientific and medical usages nowadays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

The first vocogram shows the 'monophthongs' (and some less favorable diphthongal variants given in the second vocogram): υ [y, ↓jɔ], ι [ɪ], ε [ɛ], α [ɐ, ↓æ], ᾱ [ɑ:, ↓ɛɪ], ο [ɒ], ω [σ:, ↓ɜɔ]. Furthermore, ↓[ə, ɜ:] are also included for frequent use in unstressed and stressed syllables, in accordance with typical British English practice.

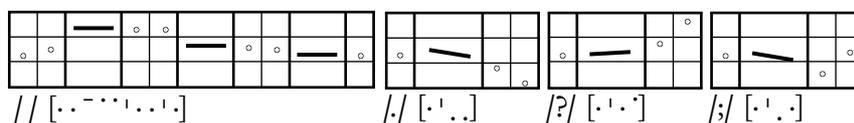
The second vocogram gives the typical diphthongal realizations: αι [aə, ↓aə(jV)], αυ [aɔ, ↓aɔ(wV)] (including ᾶυ), ει [ɛɪ, ↓ɛɪ(jV)], ευ [ɛɔ, ↓ɛɔ(jV)], ↓↓jɪu (including ηυ), οι [σə, ↓σə(jV)], ου [μɪ], η [ɛ, ↑ɛɜ], ῑ [iɪ], ῡ [yɪ, ↓jɪu], υι [yɪ, ↑yɪ, ↓yɪ(jV)], ↓jɪu(jV), ωυ [σɔ, ↓ɜɔ].

As for the *consonants*, let us notice: τ [t(h)], δ [d], θ [θ, ↓t(h)], φ [f], χ [x, ɣ, ↓k(h), ↓k̄(h)], ψ [ps, ↓#s], ξ [ks, ↓#s, ↓↓#z], ζ [z, zd], λ [lV, †C, †#], ρ [r, ↓r, ↓r̄], ρ̄ [r, ↓r, ↓r̄, †hr], and homorganic ν [n≡C] followed by a consonant, [n; m, m̄, n, ↓n̄, n̄, n̄]; σ/ς [s] (but: + μ [zm], β [zb], δ [zd], γ [zg]).

Geminates are rendered as [C] (or, possibly, as [†CC]). A phonic zero corresponds to the 'rough breathing' (´), but some people may choose to insert /h/ [h, fi].



m	[m̄]	[n̄]	n	↓[n̄]	[ŋ]	[ŋ]	
p b		[t d]	† d	↓[t d]	[k g]	k g	[ʔ]
	f	θ				x	
		s z			↓[ɹ]	j	w h [fi]
			r				
		[ʃ]	l	[ʃ]			



Summary of main usual average English realizations (with some possible variants): α [e, ↓æ], ᾱ/ᾰ [ɑ:, ↓EI], ε [E], η/ῆ [Eɜ], ι [i], ῖ [Ii], ο/ω/ὠ/ῶυ [ɒ, ɔ:, ɒɔ, ↓ɜɔ], υ [y, ↓jɔ], ὕ/υι [Yy, ↑YI, ↓jμy], ου [ɔy, μy, ɔ], ει [EI], οι [ɔɛ], αι [aɛ], αυ/ᾠυ [aɔ], ευ/ῆυ [Eɔ, ↓jμy], VιV [VɛV], VυV [VɔV]; and: ‘ [θ, ↑h, ↓ʔ], ’ [θ], ‘/ˆ [ˆ], ‘ [ˆ, ˆ, ˆ];

β [b], γ [g, g], δ [d, ↓dɹ], ζ [z, zd], θ [θ], κ [k(h), k(h)], λ [l, l], μ [m, m], ν [n, m, m], ς [ks, ↓#s, ↓↓#z], π [p(h)], ρ [r, ↓r, ↓r], ρ [r, ↓r, ↓r, ↑hr], σ/ς [s, #s, s#], zm, zb, zd, zg], τ [t(h), ↓t(h)ɹ], φ [f], χ [x, x, ↓k(h), ↓k(h)], ψ [ps, ↓#s].

There follows a possible sample of the Aesopian fable given in § 4, illustrating the kind of pronunciation generally used at school and university, unless more genuine, but more complicated, realizations are favored, as precisely in § 4.

[bə'ɹEɜs khaə'elɪɒs ,phɛɹjɔdə'nɑ'meɪɒs 'ɛɹəzɒn: 'ɛdɒk,SEI dɛɪaɔ'thɔs ɛ'kheɪnɔɔ
 ʃɛn'niikɛɪ nɛpə'neɪmɑ: ,ɒsən aɔ'thɔ:n 'ɛnθɹəpɒn ,ɒdɔə'hɒɔɹən ɛk'djμuseɪ.] ,khaə-
 ɔɒbə'ɹEɜs ɑ'(ɪ)k'sɑ'məndɒs (s)ʃə'dɹɒsen: ,jμudɪɛn'θɹɒpɹu ɛn,ʃɛxə'menμy ,ʃɛsɛθɛzɹɔz
 'mɛlən ɛ'phekɛɪ,ʃɔɔ..]

,σɔdɛɪə'phɔɔ ʃə(p)'sjμuxəs ,kheɹəpɔɔ'nμuməndɒs: ,ɛʃi'mɛlɔŋ ,kəpəɹɹə'thɛɹən ɛs-
 'θɛzʃə ,pɹɒsə'lɛmbənən: 'ɛɔs əpɒkə'mɔ:n ɔɒbə'ɹEɜs ʃɔɔə'lɪɔɔ ,mɛʃəpə'ɹɛdə,kɛɪ.] kə-
 'kheɪndɒs ,ʃɔɔmɛm'phɹɔɔʃɒm mɛ'thɹɪɒs pɹə'sɛlɛmp,SEɪ: ,jμudɛɪn'θɹɔɔpɹu ,ʃɑpɛ-
 ɹɹ'sɑ: ʃɔ'nɪmə'thɪɒn ɛpɒʃɹɪθə'menμy: sʃə'dɹɒɹən ʃə'khaɔmə ʃɛ'pheɹɹɹɹɹɹ 'mɛxɹɹs
 ʃμy pɹɒs,ʃɛnə'lɛɪən ʃɛn'ʃɛxɹɹɹm ,mɛdɹɹə'nɑ'məndɒs: əpɒdɹɹə'sɑ'məndɒs ,pɒʃə'mμy ,pɛ-
 ɹə'ɹɛɔnʃɒs ʃɛpɹɹɹlɔ'thɹɒn ʃə'pheɹɹɹɹɹɹ.]

ɹɹɹɹ'ʃɛsɔɔ ɔɔ'mɹɹθɒs: | ɹɹɹɹə'lɒməθɛ: ɹɹə'thɒm 'phɑ'lɪn 'lɛɹɹɹɹɹɹ:].

[bo'reas ka'jɛljɔs pe,riɔdy'na'meɔ 'sɛ:riɔɔɔɔɔnː| 'ɛdɔksɛ deautɔi se'kɛino ten'ni'kɛ
 napo'ne'imaiː ,osa,nauto'nanθɔɔpɔ ,noɔoi'pɔ'ɔ nek'dy:zɛː.] ,kajobɔ'rea sark'same-
 nos ,foɔɔro'sɛnː ,tuɔɔɔn'θɔ'ɔpuan ,tɛxo'mɛnu ,tɛsɛs'θɛtoz 'mallo ne'pɛ:keitoː.]

,oɔɔɔpɔtu'p'sy'xus ,katapo'nu:menosː| ,ɛti,malloŋ ,kaipe,ritto'tɛ'ra nes'θɛta ,pro-
 ze'lambanenː| 'ɛo sa,poka'mɔ'no bo'reas to'e'lio metapa're:ɔkeː.] ka'kɛinos ,to mem-
 'pɔ'tom me'trios pro'zɛ:lampseːː| ,tuɔɔɔn'θɔ'ɔpu ,taperis'sa to,nimatiɔ napo,tiθɛ'mɛ-
 nuː| sfo'drɔ'tɛ,ɔɔn to'kaumae 'pɛ:teineː 'mɛxri 'supros ,tena'lea nan'tɛ'xeim ,medy-
 'na:menosː| apody'za:menos ,pota'mu parar'ɛoɔnto sepilu'tɔ na'pɛeiː.]

ζαρεα'δε'σοιο 'my:θɔsː| ζεβυ'λω:μεθαː ζαυ'τομ palin'le:geinː].

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

Α (Α, Α, Α, Α, Α, Δ, Δ) α (α, α, α, α),
 Β (Β, Β, Β, Β) β (β, β, β, β),
 Γ (Γ, Γ, Γ, Γ, Υ) γ (γ, γ, γ, γ, Υ),
 Δ (Δ, Δ, Δ) δ (δ, δ, δ),
 Ε (Ε, Ε, Ε, Ε, Ε, Ε) ε (ε, ε, ε),
 Ζ (Ζ, Ζ, Ζ) ζ (ζ, ζ, ζ),
 Η (Η, Η, Η) η (η, η),
 Θ (Θ, Θ) θ (θ, θ, θ, θ, θ),
 Ι (Ι) ι (ι, ι, ι, ι),
 Κ (Κ, Κ, Κ, Κ) κ (κ, κ, κ, κ),
 Λ (Λ) λ (λ, λ, λ, λ, λ),
 Μ (Μ, Μ, Μ, Μ, Μ, Μ) μ (μ, μ),
 Ν (Ν, Ν, Ν, Ν) ν (ν, ν, ν, ν),
 Ξ (Ξ, Ξ, Ζ, Ζ) 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, σ, σ, σ, -ς, -ς, -ς, -ς, -ς),
 Τ (Τ, Τ) τ (τ, τ, τ, τ),
 Υ (Υ, Υ, Υ) υ (υ, υ, υ, υ, υ),
 Φ (Φ) φ (φ, φ, φ, φ, φ, φ),
 Χ (Χ, Χ, Χ, Χ) χ (χ, χ, χ, χ),
 Ψ (Ψ) ψ (ψ, ψ, ψ),
 Ω (Ω, Ω, Ω, Ω) ω (ω, ω, ω).