

Ἡ Κοινή Προφορά (Koine Pronunciation)
Notes on the Pronunciation System of Phonemic Koine Greek

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(To all students: while these notes may be of general interest,
they are of a technical nature that may be of more use to graduate students and teachers.)

When a person wants to use "living language" methods to learn a language, one is required to make some choices about what kind of pronunciation system to use. As long as students only need to write Greek or to look at Greek on a printed page, the pronunciation system is not a very important issue. The problem, of course, is that such an approach to language learning almost guarantees that the learner will never develop any kind of fluency or ability to think with the language and in the language. As soon as students set their sights on a higher goal and want to include language learning methodologies that will lead to a fluent control of the language, they must come to grips with the need to include audio and oral material in a program. And audio material for an ancient language means that decisions must be made about the kind of pronunciation system to be used.

Principles Governing the Pronunciation in this Course

1. The pronunciation system is primarily intended for persons wishing to learn Koine Greek, the general Greek dialect used from the third century before the common era (BCE) to the fourth century of the common era (CE). In particular, the focus is on the Koine Greek of what is historically the "Roman period" in the land of Israel, 63 BCE to 325 CE.
2. The pronunciation should preserve the same significant sound distinctions that were used in the Roman period. This means that the pronunciation system should be "phonemic". (This term will be explained below.)
3. The pronunciation system should, as far as practical, be historical. That is, it should reflect the way in which the language sounded in the Roman period.
4. The pronunciation should, as far as practical, help students with adapting to other dialects of Greek so as to become a bridge to the whole Greek language. When in doubt, decisions should fit with the known historical outcome.
5. The pronunciation should be practical, as far as possible, for speakers of English, Spanish, French and German.

The Phonemic Principle

What does *phonemic* mean? It refers to the sounds of a language that make a meaningful distinction.

For example, in English the vowel sound in the words 'top', 'tape' and 'tip' distinguish different words and different meanings. Those vowel sounds are *phonemic* for standard English. English speakers use these sounds for making different words.

On the other hand, the "t" sound in the English words "top" and "stop" is slightly different. The "t" in "top" has a puff of air after it that the "t" in "stop" does not have. (To perceive this distinction, put the palm of your hand on your lips directly on your mouth. Slowly pronounce "top" and then slowly pronounce "stop". Repeat the "t" part of "top" and "stop", as necessary. This can be dramatically demonstrated with a candle where a speaker can blow out a candle with "top" but will leave it burning with "stop".) English speakers consistently make these different "t" sounds but they do not use these different sounds to make different words. In fact, English speakers are not usually aware of the distinction of these "t" sounds until it is pointed out to them. The "t" of "top" is called "aspirated" by linguists, and the "t" of "stop" is called "unaspirated". These "phonetic" sound distinctions are real but they are not phonemic for English.

In addition to phonemic distinctions, English also has different words that are spelled differently but are pronounced identically.

For example,

"beet"	a vegetable and
"beat"	musical rhythm. (It is also a verb, 'to hit'.)

The words "beet" and "beat" are pronounced exactly the same but are spelled differently. Even though there is a difference of meaning, the exact same **phonemic** sounds are used. An English speaker hears these words as "the same".

Since good English courses would train English learners to "hear" the phonemic distinctions of English, it

would be good to train Koine Greek learners to "hear" as distinct, the words that Josephus, Paul, Luke and Epictetus would hear as distinct. Likewise, one should learn to hear as "the same", those words that they would hear as "the same". This will allow students to approach the kinds of language feelings that the Koine speakers had in the first century and to feel which words might rhyme with or clash with other words.

Fortunately, a phonemic pronunciation system is fairly easy to determine for Koine Greek. We have thousands of documents from the time period whose misspellings show us which sounds were exactly the same for Koine Greek speakers and which sounds were distinct and **phonemic** in their ears. This needs some caution, of course. Some misspellings reflect dialect differences and some misspellings are just haphazard mistakes. However, when hundreds and thousands of examples of the same kind of misspellings are found all over the Greek world, then we have found items that 'sound' alike to Koine Greek speakers.

Phonemic Vowels in Koine Greek

The following four vowel pairs are known to be equivalent within respective dialects¹ throughout the Mediterranean world of Koine Greek:

[εɪ] was pronounced the same as [ɪ].

[αɪ] was pronounced the same as [ε].

[ω] was pronounced the same as [ο].

[οɪ] was pronounced the same as [υ].

A few representative examples will help to make this clear.² The illustrations below are mainly from the few Dead Sea Scroll documents that we have in Greek, supplemented with papyri from the Loeb Classical Library³.

1. εɪ for ɪ and ɪ for εɪ

It is certain that εɪ and ɪ were pronounced [i] for the Roman period Koine. Interchanges between these two are so common as to be almost uninteresting. Nevertheless, a few examples from the Dead Sea Babatha archive⁴ (124-31 CE), a Ben Kosiba (Bar Kokhba) letter⁵ (132-135 CE), and an Egyptian Greek letter (100 CE) may be of representative interest:

	attestation	normalized	English
Ben Kosiba 1.9	ισ	εἶς	'to, for' (132-135 CE)
Ben Kosiba 1.7	συνεξεληθιν	συνεξελεθειν	'go out with'
Babatha 25.4	επιδη [=epidé]	ἐπειδή [=epidé]	'since' (131 CE)
Babatha 25.6	νυνει	νυνί	'now'
Babatha 15.8	υμειν	ύμῖν	'for you' (125 CE)
Papyrus 109.2	τωι οιειωι	τῷ υἱῷ	'to the son' (100 CE)

¹ Please Note: this does not mean that an *ω-μέγα* would sound exactly the same as an *ω-μέγα* in another dialect. To the contrary, we may assume that there would be continual small changes from dialect to dialect and even from village to village in some cases. What the above equivalencies mean is that within any particular dialect, the *ω-μέγα*, however it is pronounced, will be pronounced like *ο-μικρόν* in that dialect.

Likewise, the equivalencies do not mean that marginal dialects would not exist that did not follow the equivalencies of the major, majority dialects. The equivalencies above point out the what a traveller would hear in the majority dialects all over the Mediterranean, from Rome to Judea, from the Aegean to Egypt.

² For further examples and discussion, see Francis Thomas Gignac, *A Grammar of the Greek Papyri of the Roman and Byzantine Periods*. Volume One: *Phonology*. Milan 1976.

More readable and with good grasp of linguistic development is: Geoffrey Horrocks, *Greek, A History of the Language and its Speakers*. Longmans, 1997.

See also: Harry Leon, *The Ancient Jews of Rome*. Jewish Publication Society. 1960.

³ A.S. Hunt and C.C. Edgar, *Select Papyri*, vol 1. Loeb Classical Library. Harvard University Press, 1932.

⁴ Naphtali Lewis, *The Documents from the Bar Kokhba Period in the Cave of Letters, Greek Papyri*. Jerusalem: Israel Exploration Society, 1989.

⁵ Baruch Lifshitz, "Papyrus grecs du désert de Juda", *Aegyptus* 42 (1962):240-258.

A comment on *iota adscript*, written in texts:

The fact that a "grammatical" *iota* is often left off shows that it was no longer pronounced in the first century but was a grammatical spelling when correctly added, as in Papyrus 109.2 above. Cf. the lack in
 Bab. 21.24 ενι εκαστω ἐνὶ ἐκάστῳ 'for each one'

2. **αι** for **ε**, **ε** for **αι**

This is also a widespread, certain vowel development by the Roman period Koine.

Papyrus 99.4	ειδηται	εἰδῆτε	'you would know' (154 BCE)
Ben Kosiba line 11	ποιησεται	ποιήσητε	'you should do'
Babatha 16.16	αιναδδων	(gen. pl.)	En Gedi (127 CE)
Babatha 11.1	ενγαδοισ	(dat pl.)	En Gedi (124 CE)
Babatha 37.8	εταιροις	ἐτέροις	'for others' (131 CE)
Babatha 24.18	αποδιξε	ἀποδείξαι	'to declare' (130 CE)

3. **ω** for **ο**, **ο** for **ω**

Another certain, widespread substitution in the Roman period Koine.

Papyrus 100.2	ομνυο	ὀμνύω	'I adjure' (152 BCE)
Babatha 15.10+11	ηγεμωνοσ	ἡγεμόνος	'of governor' (125 CE)
Babatha 20.16+40	ανθομολογημενης	ἀνθωμολογημένης	'acknowledged'
Papyrus 109.14	αυτον	αὐτῶν	'of them' (100 CE)
Papyrus 109.15	ενπιροσ	ἐμπείρως	'skillfully'

4. **οι** for **υ**, and **υ** for **οι**

Another certain, widespread substitution in the Roman period Koine.

Papyrus 103.12	επησηεν	ἐποίησεν	'did' (95 BCE)
Papyrus 109.2	τωι οικιωι	τῷ υἱῷ	'to the son' (100 CE)
Papyrus 109.3	πησασ	ποίησας	'having done'
Papyrus 110.14	λυπον	λοιπόν	'remaining' (100 CE)
Babatha 20.30	ηνυγημενον	ἠνοιγμένον	'opened' (130 CE)

There are two additional points on **υ**:

a. **οι** and **υ** had not yet merged with [ει,ι] as the later, standard itacistic change.

b. Notice extra /t/ in the next document, probably reflecting a 'fronted' [ū] pronunciation of /υ/.

Babatha 21.17, 25	δια ενυγιου	διὰ ἐγγύου	'by guarantor' (130CE)
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The Status of [η]

While the decision on the above four phonemic vowel sounds was easy and rather unambiguous, there are several points where a more cautious judgment and approach are necessary. The vowel [η] was somewhat unstable.

The vowel [η] became like [ι] and [ει] by the fourth century CE. Throughout the Roman period this vowel shows tendencies of confusion, especially by people who learned Greek as a second language. Gignac is of the opinion that [η] merged with [ι] in the second century CE⁶. This means that some might want to drop this distinct sound from their Koine inventory. Such a decision would fit with the general trend of the language and fits smoothly with modern Greek. (Principle #4.) However, the "confusion" with this vowel is not as regular as the vowel equivalencies mentioned above. Plus, [η] is sometimes mixed up with [ει/ι] and sometimes in the other direction with [αι/ε]. It certainly does not approach the common equivalency that [ει] and [ι] have with each other throughout the period. Broadly speaking, it would appear that most people correctly used it as an equivalent for a "close"/mid-high [e] sound in the early Roman period. Consequently, we may conclude that most speakers in the

⁶ Gignac, 1976: 242, n. 1.

first century maintained [ɲ] as a separate phoneme. We may, for example, expect that Luke's audiences expected to hear it or that Paul used it when preaching all over the Mediterranean. Nevertheless, there were people using Greek who were controlling this [ɲ] vowel in a substandard manner and by the end of the Roman period it had 'disappeared' from Greek speech, probably first among the uneducated and then by the upperclass.

Living Koine Greek for Everyone has included [ɲ] as a separate vowel sound. It appears to have still had popular phonemic status in the early Roman period, so the phonemic principle (#2) supports this inclusion of a separate sound for [ɲ]. It also carries a fairly heavy functional load within the phonological system so this is worthwhile keeping.

[υ] as a Consonant

During the Roman period the υ "upsilon" after vowels, (αυ, ευ, ηυ) also began to be assimilated to (φ, β). Throughout the Roman period speakers were using consonantal patterns of a [w]-glide⁷, perhaps becoming an unrounded glide and finally a bilabial fricative [β].⁸ This Koine innovation of [β] has also been included in *Living Koine Greek* as consistent with the decision on consonants. See below. It is certainly the outcome of the Koine process.

Discussion of Consonants

Consonants are trickier to evaluate than the vowels because they tended to remain phonemic and are often preserved with a correct spelling regardless of how they were pronounced.

The consonants were in a state of "etic" [non-significant] change throughout the Roman Koine period. They preserved their independent, phonemic status. But their pronunciation changed.

The voiced stops [β, δ, γ] fricativized first. Already at the beginning of the Roman period βῆτα was probably becoming 'soft' bilabial fricative, like Spanish 'b' in Havana/Habana (the city). γάμμα became a velar fricative, and even a palatal fricative in conjunction with front vowels. During the Roman period δέλτα eventually became fricativized everywhere (like the English sound in 'this')⁹.

Notice the following examples of Latin words with [v] transcribed in Greek with [β].¹⁰

Σαλβίου	for the Latin [Salvius] (1 st century CE).
πρεβέτοις	for the Latin [privatus] (1 st century CE)
Φλαβία	for the Latin [Flavia] (149 CE)
Φλαουβίου	and Φλαυβίας for the Latin [Flavius/-a] (120 CE)

Also, our earliest extensive NT papyri, p46 (late 2nd century), already has Σιλβανοῦ at 2Cor 1.19, corrected to Σιλουανοῦ.

Likewise, notice examples of γάμμα reflecting a fricative abound, in some cases approaching a palatal [y]

⁷ For example, in our Dead Sea material, notice the extra /v/ (probably=consonantal [w] or even a faint bilabial) Babatha 21.2, 22.2 ΦΛΑΥΟΥΙΟΥ for Φλαουίου (Flavius).

⁸ A remarkable, though uncharacteristically early, example of this is in a Ptolemaic papyri with ραυδους for ράβδους (3 times). (See Gignac 1976:68, n.1).

Another interesting, early example comes from a papyrus from 35/36 CE. The first hand wrote Πνεβτύνι, while a second hand corrected this to Πνετύνι. (Gignac 1976:70).

Horrocks (1997:111) writes: "The progressive narrowing of the articulation of the second element of the original diphthongs /au,eu/, beginning in the third century BC and leading via [aw,ew], to audible friction, i.e. [... aβ^w, ... eβ^w], is first attested in the spellings a(u)ou/e(u)ou, which seem to reflect the consonantal character of the second element. By the Roman period, after the loss of simultaneous lip rounding, we seem to be dealing simply with a pronunciation [.../aβ, .../eβ], or perhaps even [af/av, ef/ev] as in modern Greek. Spellings with β ..., become increasingly common in late Roman and early Byzantine documents."

⁹ According to Gignac (1976:75), δέλτα first became fricativized before [i], around the first century. Interchanges between [d] and [z], as mistakes to be sure, only begin from the third century, and Gignac takes this as evidence of the complete fricativization of δέλτα.

¹⁰ Examples are from Gignac (1976:68-70).

sound.¹¹ The insertions and the substitutions with [t] would not be probable without *γάμμα* having become a 'soft' fricative.

τηρου	for	ἱεροῦ	'of holy' (from 5 BCE)
υγιου	for	υἱοῦ	'of a son' (from 16 CE)
επιευς	for	Ἐπιευς	(frequent in 1c CE)

It is impossible to know just how much later voiceless φ, θ, and χ became fricatives like typical Erasmian 'f', 'th' and 'ch'. It appears that voiced stops [β, γ] had already gone 'soft' by the first century, while the voiceless fricatives are mainly post-1st century. (This is almost a complete inversion of current Erasmian practice, where Erasmian voiced stops are 'hard' and voiceless aspirated stops are fricatives.) For the voiceless consonants (φ, θ, χ), the typical "Erasmian" soft pronunciations of φεῖ, θῆτα and χεῖ, common in academic circles today, were taken directly from modern Greek. Historically, these "modern" sounds probably entered Greek pronunciation around the end of the Roman Koine period. (See below for a Dead Sea example where θῆτα was still a "hard, aspirated t" just like modern English /t/. The ancient Greek distinctions (φ,θ,χ vs. π,τ,κ) were between hard, aspirated stop sounds like English 'p' 't' 'k' and between unaspirated Spanish 'p' 't' 'k'.). Notice:

BenKosiba 1.8 ανασθησεται ἀναστήσεται 'he will stand up'
 (the *theta* was probably still 'hard', an aspirated stop, in order to substitute for *tau*)¹²

NB: if the soft pronunciation is accepted for the voiceless consonants (φ, θ, χ), then consistency would demand that the historically earlier voiced fricatives (β, δ, γ) are also used.

A practical approach on these consonants [β, δ, γ, φ, θ, χ] is outlined here.

1. To recognize that whichever pronunciation we follow, we will be able to preserve its phonemic status to a high level of consistency. *Theta* will still pattern as *theta*, whether pronounced an 'hard' t^heta or 'soft' θῆτα.
2. To accept the flow of the language and recognize that the "etic" pronunciation of the consonant system was undergoing change, (already in the first century, especially in northeastern dialects), and changing towards the 4-5th century stabilization where they are all fricatives. Principle #4 would support the 'soft' fricative pronunciation.
3. To recognize that the contrast [p^h, t^h, k^h] versus [p, t, k] is not phonemic in Western European languages and unnecessarily difficult. Principle #5 would support the 'soft' pronunciation.
4. Thus, for phonemic Koine Greek we may accept the Erasmian (=modern) voiceless fricatives [φ, θ, χ] on practical grounds. This was the direction in which the consonants were already in the process of moving. The voiced fricatives [β, γ, partly δ] can be accepted on historical principles already for the first century. In sum, the most practical and most historical mix would be to use something close to the "modern" Greek consonants for Koine.

Aspiration

During ancient times Greek had an /h/ phoneme that would be used to the beginning of some words. Words beginning with [υ] always had this, as well as the demonstrative words and relative pronouns (οὗτος, ὁ, ἡ, ὅς, ὅ). However, even in some dialects in early times, like Ionic, this /h/ was not pronounced. In the Athenian spelling reform of 403 BCE, the ancient sign for this aspiration /H/ was dropped out of the general writing system. Instead, they started using that old aspiration symbol for the long form of the /ε/ vowel. This is now our [η], the vowel that has become [e] in Koine.¹³

Gignac lists many examples where there is consonant confusion in Koine times between (π, τ, κ) and (φ, θ, χ) before words beginning with aspiration. For example, with οὐ 'not' before words that begin with vowels

¹¹ Examples are from Gignac (1976:71-70).

¹² Geoffrey Horrocks, *Greek, A History of the Language and its Speakers*. Longman, 1997:112 "There is also possible evidence for a fricative pronunciation of /k^h/ (second century BC) and /p^h/ (second century AD) in the Asia Minor Koine." (Horrocks, 113): "Though the evidence is frankly meagre, it would perhaps be reasonable to assume that frication in the Koine began in various areas outside Egypt during the Hellenistic period and that it had been widely, though by no means universally, carried through by the end of the fourth century AD."

¹³ Conservative spelling continued to mark aspiration in some of the ancient inscriptions by using the front half of the old letter for aspiration (⚭).

with 'rough breathing' one expects *οὐχ* : *οὐχ ἕξ* 'not six'. Before words with an initial vowel without rough breathing one expects *οὐκ*: *οὐκ ἕξ αὐτοῦ* 'not out of it'. The lack of consistency of this phenomenon in both directions in Koine texts shows that aspiration had fallen out of common use. Gignac writes: "[these data-RB]... point to a loss of initial aspiration in the speech of many writers. Aspiration has not survived into Modern Greek. It was lost during the period of the Koine." (Gignac 1976:137-138.) Some of Gignac's examples follow.

επ οἰς	for	ἐφ' οἷς	'on which' (46 CE)
απηλικος	for	ἀφήλικος	'of a minor' (134 CE)
καθ ετος	for	κατ' ἔτος	'annually' (26 BCE)
εφιδη	for	ἐπίδη	'he might oversee' (37 CE)
επιορκουντι	for	ἐπιορκοῦντι	'perjuring' (30 BCE)

Since aspiration fell out of common speech during Koine times, since the sound was not part of the writing system in Koine times, and since it does not fit with Modern Greek¹⁴, it seems in keeping with the Koine pronunciation of consonants to drop aspiration from the pronunciation system. This follows principle #4, and principles #2 and #3 for the majority of Koine speakers. (For Koine 'access' to this information, see footnote.¹⁵)

Why Use A Phonemic Koine?

Phonemic Koine results in a dialect in which the user will appreciate the sounds and writings of the first three Christian centuries in a manner in which **the original audiences would have perceived them**.

This may only become an issue when someone wants to invest the time and energy to become truly fluent in the language, able to think, pray, listen and read at normal conversational speeds. After such work would the student like to end up feeling like a Koine Greek and sounding somewhat 'Greek'? Hopefully. For those coming from a different system, a relatively small change at the beginning of the renewal effort is worthwhile. Additionally, the phonemic Koine is close enough to modern Greek so that Greek speakers accept it as 'something Greek' and 'non-offensive', even if not the same dialect.

From the other direction: professional conferences are not a very compelling reason for preserving something incorrect or historically out of sync. At professional conferences audiences can only be assumed to follow written texts and any dialect can be used.

It would obviously be an advantage to be able to listen to Koine texts and perceive them rapidly and within the same linguistic framework as the original audience. That is the goal of Living Koine Greek.

Comparison of Other Systems of Pronunciation

There are approximately four different pronunciation systems available for reading Greek. They are summarized below and followed by a comparative table of their vowels.

Alternative Pronunciation 1 Modern Greek

τ = ετ = η = υ = οτ are pronounced the same,

also αι = ε

and ω = ο

Consonants β, δ, γ, φ, θ, χ are 'soft', fricatives.

¹⁴ A century ago, Moulton wrote, "de-aspiration was the prevailing tendency ... part of the general tendency which started from the Ionic and Aeolic of Asia Minor and became universal, as Modern Greek shows". (James Hope Moulton, *A Grammar of New Testament Greek*, vol. 1 Prolegomena, 3rd ed. Edinburgh: T. and T. Clark, 1908, p. 44)

¹⁵ Students are free to add aspiration as they wish, though one may imagine that such would have been thought 'stuffy' or snobbish in the first century. There were probably still some features of a "classical Greek" that were consciously learned by the upper classes and in which [h] would be learned and heard.

In keeping with later medieval practice, the "rough breathing" marks are written in *Living Koine Greek* wherever the miniscule "small letter" writing system is used. [Thus, *ἐλληνική* but not *ΕΛΛΗΝΙΚΗ*.] Access to the information about rough breathings is provided in the writing system and by correct drilling of the 'consonant harmony' in words like *καθ'* and *οὐχ*. Homonyms that are distinguished by ['] in the writing system will be pointed out.

This would be a good option based on principle #4. However, it contravenes the phonemic character of Koine Greek. This is probably best reserved for those who are already fluent in the modern language.

Alternative Pronunciation 2
Allen-Daitz "Restored Attic"

ω is longer and lower than ο (τῶ, τό, are opposite from Erasmian)

η is longer and lower than ε (ἔτι, ἦδη, vowel levels are opposite from Erasmian)

Consonants β, δ, γ are 'hard' and φ, θ, χ are also hard, 'aspirated-stops'.

The Allen-Daitz system scores high on principles #2 and #3 for its own period. But it contravenes principle #1. It is true to the old poetic tradition and should probably be given consideration for those mainly interested in Greek epic, poetry and plays.

However, it is a relatively difficult system for speakers of English, Spanish, French and German. It requires a phonemic contrast that is not in use in the above languages (unaspirated voiceless stops to be readily produced and distinguished from aspirated voiceless stops). In addition, it adds features of tone and length that require extraordinary processing energy for those who are generating speech and not simply reciting or reading texts. So, principles #1 and #5 argue for other systems. Principles #2 and #3 are contravened for Koine, and it likewise is unredeemably distant from fulfilling #4 and any natural rapprochement with Modern Greek.

Alternative Pronunciation 3
Erasmian (US version):

υ (before vowels) = ου, (λούω 'I untie' = λούω 'I wash')

ει = η, (βλέπει = βλέπη)

ο is lower than ω, (τῶ, τό)

ε is lower than η (ἔτι, ἦδη)

Consonants φ, θ, (χ) are 'soft', 'fricative', but β, δ, γ are hard (historically backwards from 1st century!)

The vowels contravene the phonemic principle (#2) in two directions. Two vowel symbols (ει, υ) are joined to the wrong phonemes for Koine. Then several vowels are artificially differentiated so that homonyms, rhyme and ambiguity for the original audience are masked over. Principle #3 is also contravened in two directions. The voiced fricatives are pronounced "hard", but the voiceless aspirated stops are pronounced "soft" as fricatives. It is also out of step with principle #4, since it neither leads on to modern, nor is true to the classical Attic. Its main claim is that it represents the academic status quo. This last concern would seem irrelevant for those interested in becoming fluent in Koine, since academic audiences rely on written texts.¹⁶

¹⁶ The author of this book has actually had to use all four of the above systems at various stages in his career. Switching from one to the other is certainly possible at various stages, especially when one is not fluently speaking the language but only reading written texts. However, when building toward fluency, it is recommended to use the system that one plans to end up with.

(Phonemic) Koine Option
Living Koine Greek

The Koine pronunciation adopted in this course reasonably meets all of the criteria.

- #1 It is specific for the Koine of the Roman period.
- #2 It preserves the phonemic system that the speakers of the period were using.
- #3 It partially meets the historical criterion. With regard to aspirated consonants it has chosen the fricative set according to #5 (as have Modern and Erasmian).
- #4 It is quite close to a modern pronunciation. Students will find themselves partially prepared for the Modern dialect, should they choose to learn it.
- #5 It is practical, choosing to follow φ, θ, χ from the end of the period because of ease of learning and their fit with principle #4.

Phonemic Koine offers both the historical integrity that scholars will appreciate (principles #2 and #3) and a Greek-sounding dialect that is more harmonious for those who use the Modern language (principle #4).¹⁷

The 7-vowel phonemic sound system in first century Greek,
written with 11 symbol combinations:

ι	=	ει
		η
ε	=	αι
		α
ο	=	ω
		ου
υ	=	οι

¹⁷ Those interested in papyrology, reading ancient documents and text criticism will find that a Koine pronunciation is more helpful than either of the "classical" options. A full modern pronunciation is useful for texts from the mid-first millennium CE, meaning that (οι, υ, and η) had joined with (ει, ι) by that time and were often confused by scribes.

Tongue Position Chart for 1 st Century CE				
	front	rounded	central	back
high	/ι,ει/	/υ,οι/		/ου/
mid	/η/			
mid/low	/ε,αι/			/ο,ω/
low			/α/	

The sound that is written with ι and $\epsilon\iota$ is made with the highest part of the tongue relatively forward and high for a vowel. The lips are unrounded.

The sound that is written with η is made with the highest part of the tongue relatively forward and with medium height for a vowel. The lips are unrounded.

The sound that is written with ϵ and $\alpha\iota$ is made with the highest part of the tongue relatively forward and medium-low for a vowel. The lips are unrounded.

The sound that is written with υ and $\omicron\iota$ is made with the highest part of the tongue relatively forward and high for a vowel, like ι and $\epsilon\iota$. Plus, the lips are tightly rounded like $\omicron\upsilon$.

The sound that is written with α is made with the highest part of the tongue relatively central and low for a vowel. The lips are unrounded.

The sound that is written with $\omicron\upsilon$ is made with the highest part of the tongue relatively back and high for a vowel. The lips are rounded.

The sound that is written with \omicron and ω is made with the highest part of the tongue relatively back and medium to medium-low height for a vowel. The lips are rounded.

Table of Vowels in Comparative Pronunciation Systems

Each horizontal solid line divides a single sound-group (phoneme) into the orthographic representations for each system. That is, within each phoneme band in the table, there are lists of the various ways that each system maps symbols to that sound.

For example, the first sound listed (a high front unrounded vowel /i/) has five Modern Greek orthographic representations, 2 phonemic Koine representations and only one Attic and Erasmian representation. The second sound listed (a high front rounded vowel /ü/) does not have a Modern representation or a US Erasmian representation but is mapped to two phonemic Koine orthographic representations and one Attic orthographic symbol.

(Phoneme)	Attic (Allen-Daitz)	Erasmus (U.S. version)	Phonemic Koine	Modern
/i/	ι	ι	ι	ι ει η οι υ
/ü/	υ		υ οι	
/e/	ει	ει η	η	
/ε/	ε	ε	ε αι	ε αι
/æ/	η			
/a/	α	α	α	α
/ɔ/	ω	ο		
/o/	ο	ω	ο ω	ο ω
/u/	ου	ου υ	ου	ου
/o+i/	οι	οι		