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ANCIENT GREEK LONG - VOWEL SYSTEMIC DEVELOPMENT
 IN A SHORT SURVEY FOR THE DIDACTICAL PURPOSES

In two more extensive monographs and in a number of articles published in various periodicals I tried during the last twelve years to analyze the development of the long-vowel, short-vowel and consonantal (sub)systems in the world of Greek dialects. In spite of the fact that some partial problems may appear as insufficiently elucidated so far, the main lines of this systemic development are already established, in our opinion, with a rather high degree of probability. This is the reason why, as a matter of fact, an attempt should already be made to employ the results of the above-said analysis for the didactical purposes in the field of Ancient Greek historical grammar. In the present article I shall try to outline the main trends of the long-vowel systemic development, supplementing my exposition with graphical surveys on pp. 76 ff.¹

A) As a starting point in research into the history of the long-vowel system in Greek we must consider the presupposed form of the proto-Greek long-vowel system with five long monophthongs (\bar{a} , \bar{e} , \bar{i} , \bar{o} , \bar{u}) [see our scheme A].

This system seems to have been typical for Mycenaean Greek (i.e. for the Peloponnesian and Aegean Achaeans) in spite of the high possibility that already in this early Greek dialect the vestiges of the local accomplishment of the so-called first compensatory lengthening may be discovered (e.g. in the expressions a-ke-ra₂-te = *agērantes?* < **agers-*, or o-pe-ro-si = *ophēlonsi* < **ophelnon-si*). But as the \bar{e} - and \bar{o} -products of this Mycenaean phonological change fused with the primary \bar{e} and \bar{o} , no change in the above-mentioned long-vowel system was left in this way.

B) The first differentiation process within this five-member proto-Greek long-vowel system occurred in our opinion in the Doric dialect of Elis. It is a well-known feature of Elean that the sign A occurs very frequently for the primary, proto-Greek \bar{e} in this dialect (cf., e.g., the frequent Elean $\mu\acute{\alpha}$ = Att. $\mu\eta\acute{\iota}$ or $\acute{\epsilon}\alpha$ = $\acute{\epsilon}\eta\eta$), whereas the secondary Elean \bar{e} , no matter if it had arisen by the compensatory lengthening or by the isovocalic contraction of $e + e$, $o + o$, was regularly reproduced by E, or later by H. The just-mentioned Elean tendency to reproduce the primary \bar{e} by means of the sign A may be traced as far back as to the earliest Elean inscriptions from the

¹ This paper, read in the University of Amsterdam in December 1971, is a modified version of the summary of my monograph *Development of the Long-Vowel System in Ancient Greek Dialects*, Prague 1966, Amsterdam (Hakkert) 1972², esp. pp. 131ff. Cf. also *Classification of the West Greek Dialects at the Time about 350 B. C.*, Prague—Amsterdam 1972, esp. 96ff.

first half of the 6th cent. B.C., whereas, on the other hand, some time after the adoption of the Ionic alphabet about the middle of the 4th cent. B.C. the above-mentioned tendency markedly began to lose its ground. But let us stress, at the same time, that the sign A appears at no time to be established as the only possible spelling of the Elean substitute for the primary \bar{e} , not even in the earliest documents.

On the other hand, we do not encounter one single case of graphic insteadness with respect to the signs A and E, or to A and H, in situations when the original \bar{a} is reproduced; this phone is reproduced in Elean quite consistently with the sign A. In our opinion this fact justifies our belief that the Elean substitute for the primary \bar{e} , even through frequently reproduced with the sign A, never fused with the original \bar{a} , but was simply written with the same sign for want of another more suitable reproduction. In these circumstances the most correct standpoint appears to be to take the Elean substitute for the primary \bar{e} for a very open \bar{e} , if not for \bar{a} , which differed phonetically both from the phoneme \bar{a} , and from the secondary \bar{e} originating later through compensatory lengthening or through contraction [see our scheme C, type No. I A].

Thus we have to do with three independent \bar{e} - and \bar{a} -phonemes in the Elean systemic type I A in the scheme C, i.e. the phoneme \bar{a} (the original \bar{a} reproduced by A, e.g. in *νλα*), the phoneme \bar{e} (the original \bar{e} , reproduced sometimes by A, sometimes by E, or later H, e.g. in *εα* or *εἶε/εἶη*), and the phoneme \bar{e} , secondary in origin and reproduced always by E or H, e.g. in *ἐμλ/ῆμλ*. This assumes the Elean existence of two \bar{e} -phonemes on the front-vowel axis, whereas on the back-vowel axis only one \bar{o} -phoneme was situated, which was always reproduced by O, or later Ω, no matter of what origin it was.

The fact that the Elean \bar{o} -product of the first compensatory lengthening fused quite completely and without residue with the primary \bar{o} , whereas the Elean \bar{e} -product of the same lengthening was always both phonetically and phonemically separated from the local substitute for the primary \bar{e} , seems safely to indicate that the primary \bar{e} had changed into \bar{e} prior to the first lengthening, while the new secondary \bar{e} , which originated in the course of the first compensatory lengthening, simply filled later the wide gap between \bar{i} and \bar{a} (see § c sub C). In this way, we may perhaps quite rightly place the Elean opening change $\bar{e} > \bar{a}$ before the beginning of the first millennium B.C.

C) The above-said Elean development was, of course, only a marginal episode in the differentiation development of the Greek long-vowel system. The first really very important systemic differentiation in the long-vowel system came into being in connection with the accomplishment of the first compensatory lengthening of the type **esmi > ēmi* in those dialects in which a special close \bar{e} - and \bar{o} -result was produced by this process.

We have said above that already in Mycenaean Greek some vestiges of the accomplishment of the first compensatory lengthening may be found, its \bar{e} - and \bar{o} -products having here fused with primary \bar{e} , \bar{o} most probably (see § a sub C). As such vestiges were discovered both in Pylos and in Knossos — and as the first lengthening with the same results is documented also in Arcadian (i.e. a Classical Greek dialect rather closely related to Mycenaean from the genetic point of view) — one may assume that the said lengthening affected probably the whole Mycenaean Peloponnese as well as some parts at least of the Achaean colonization area on the Aegean islands.

When after the fall of the Mycenaean centres the Dorians settled in the south of Greece, their language was no doubt influenced in many features by the Mycenaean

dialects of the Peloponnesian (Old Achæan dialects) and perhaps also by those of Central Greece (Old Aeolic?). And one of the rather early manifestations of this influence probably was the compensatory lengthening of the type **esmi* > *ēsmi*, an easy means of eliminating a number of consonantal groups. It was to be expected that in Peloponnesian Doric this lengthening would assume the local, substrate Achæan form, i.e. with *ē-/ō-* products identical in quality with the primary *ē, ō*. In fact this is what really occurred in Laconia, Messenia, Western Argolid, in the Dorian islands of the Aegean Sea, whose settlers must have arrived by way of the Peloponnesian, further in Central Greek Boeotia, and most probably also in North-Peloponnesian Achæa.

By contrast, in the Dorian areas of North-West Greece and in the Dorian and Ionian regions round the Isthmus and the Saronic Gulf, i.e. in Corinthia, Megarid, Eastern Argolid as well as in Attica, Euboea and the adjacent Ionian islands, the first compensatory lengthening produced a special result for *ē* and *ō*: the arising lengthened *ē-* and *ō-* vowels failed, for reasons unknown to us, to find in the local long-vowel system phonemes with which they could fuse, and finally assumed the position of independent close *ē-/ō-* phonemes, thus giving rise to a significant innovation in the long-vowel system (see § b sub C as well as the systemic type No. II in the same stage of development). [This important innovation resulting in origination of a new pair of *ē-/ō-* phonemes did not penetrate further into the Peloponnesian not so much owing to the high mountain-ranges as to the probable fact that the first compensatory lengthening had already taken place here before, with its *ē-/ō-* results being quite identical with the primary *ē/ō* under the influence of the Achæan substratum.]

In the innovating dialects, the long-vowel system got enriched by two new members, the secondary *ē, ō* occupying the position of the close *ē, ō*, whereas the primary *ē, ō*, which had up till then had a mid-long position, shifted apparently to the open position of *ē, ō*.

As to the chronology of this systematic transformation, it was older than the well-known Attic-Ionic change of *ā* to *ā̄*, as we can see from the fact that the proto-Greek *stalnā* was first lengthened into *stālā* and only then changed into *stēlē*. Since the Attic-Ionic accomplishment of the first lengthening seems to have been chronologically connected with that of the North-West and Saronic Doric areas and is to be considered, thus, as post-Mycenaean, and since it was apparently a later phenomenon when compared to the above-mentioned Elean opening process of *ē* to *ā̄*, we may perhaps take for granted that the Attic-Ionic and North Doric origin of the new pair of long *ē-* and *ō-*vowels may be attributed most probably to the 11th century B.C.

By the transformation of the original three-grade long-vowel system into a four-grade one the entire area of the Greek language, which before was characterized by the same number of five long monophthongs, got now divided into as many as three parts with respect to the number of the monophthongs in their long-vowel system: it was the archaic type No. I disposing of five long monophthongs, the innovation type No. II with seven of them and the half-innovation type No. I A (i.e. Elean) with only six long monophthongs. [Let us add here that type I comprized also Lesbian and Thessalian, two dialects where instead of the lengthening gemination of the type *έμμι, βολλα* is documented.]

This means that apart from Elean there existed about 1000 B.C. an important line of division separating the southern archaic dialects of five long monophthongs

from the northern innovating dialects of seven long monophthongs. The above-said line of division ran at first through the middle of the Corinthian Gulf, then continued across the borderland between the Corinthian and Achæan territories and, further south-east, across that between the Corinthian and West Argolic areas, and finally entered the Aegean Sea through the hilly region between Western and Eastern Argolid.

D) The stage *D* in the differentiation development of the Greek long-vowel system is characterized by the Attic-Ionic change of the original long *a* into \bar{a} , which probably occurred in the 10th century B.C. at the latest. This change itself did not result in an increase of the number of phonemes in any of the dialects concerned, but nevertheless, the mutual relations of the long monophthongs within this system got somewhat reshaped — as may be seen in type II A of our scheme *D*. Sub *D* we must now distinguish four types:

a) Type I is the archaic one, with five monophthongs (and contains dialects unaffected by any systemic innovation);

b) type I A is the half-archaic one, admitting innovation only on the front-vowel axis and having thus 6 monophthongs (it comprises only Elean);

c) type II disposes of a new, close \bar{e}/\bar{o} -pair, as well as of an \bar{a} -vowel that did not shift to the position of \bar{a} (we have to deal here with the North-West dialects and with the Saronic Doric dialects, i.e. those spoken in the neighbourhood of the Isthmus and the Saronic Gulf);

d) and finally the fourth type, type II A, likewise with two additional \bar{e}/\bar{o} -phonemes, their long \bar{a} -vowel being, however, shifted to the position of \bar{a} (this type concerned only Attic-Ionic). [Let us add that at least in the Ionic of Asia Minor the newly arisen very open \bar{a} possibly fused so quickly with the open primary \bar{e} e.g. in *stāta* that it might not even be necessary to ascribe here the transitional \bar{a} the character of an independent phoneme.]

The main line of division, however, between the two innovation types, on the one hand, and the two more archaic types, on the other hand, remained unchanged so far. But in future it was not destined to have a long duration, the main disturbing factor being here the northern innovation system pressing southward.

This sort of pressure will be better understandable if we take into consideration the functional loading of the individual phonemes of the archaic Greek long-vowel system with its five members (\bar{i} , \bar{e} , \bar{a} , \bar{o} , \bar{u}). Even without extensive statistical analyses it is clear that the two phonemes representing the highest degree of close quality (i.e. \bar{i} and \bar{u}) had a very low frequency of occurrence in proto-Greek (and in most Greek dialects even in the Classical Era), when compared with the other three monophthongs (\bar{a} , \bar{e} , \bar{o}). And since the compensatory lengthening of the type *esmi* > *ēmi* was running its course in almost the entire Greek dialectal world—only Thesalian and Aeolic of Lesbos excepted—then this condition was bound to become even more pronounced in most of the Greek dialects after the accomplishment of the said lengthening, for neither short *i* nor *u* that had to be lengthened into \bar{i} , \bar{u} in this way was in principle as frequent as the short *a*, *e*, *o*, which were changing into \bar{a} , \bar{e} , \bar{o} through this compensatory lengthening.

E) This danger of overloading too much especially the long \bar{e}/\bar{o} -vowels was removed, as we have already seen sub c), in the extensive stretch of the territory from the furthest north-west of Greece to the shores of the Saronic Gulf and the adjacent islands by the transformation of the older original long-vowel system of five members into a system of seven members. This systemic development was a sort of helpful protection from the too great overloading of the primary \bar{e} , \bar{o} and it

meant that while the new long \bar{i} and \bar{u} (and also \bar{a}) arisen through the first compensatory lengthening fused with the primary \bar{i} , \bar{u} , \bar{a} , the new long \bar{e} , \bar{o} turned into independent close \bar{e} , \bar{o} phonemes about 1000 B.C.

Such a sort of systemic transformation proved to be a very helpful resource against overloading the long \bar{e} - \bar{o} -vowels even when in the 9th century B.C. at the latest the second compensatory lengthening of the type *pheronsa* > *pherōsa* and *tons* > *tōs* was running its course. This lengthening process affected both the secondary intervocalic group *-ns-* (e.g. the adjectival and participial forms like **pantja* > *pansa* > *pāsa*, or **pherontja* > *pheronsa* > *pherōsa*, further the datives of plur. of consonantal stems like *pantsi* > *pansi* > *pāsi* and in some Greek dialects also the ending of the 3rd person of plur. act. like *pheronti* > *pherontsi* > *pherōsi*), and the primary final *-ns* (e.g. the acc. plur. of the *o*-stems like *tons* > *tōs*). This second compensatory lengthening found in the Greek dialectal world the following documentation:

αα) The Greek dialects disposing of two \bar{e} - \bar{o} -pairs, i.e. the North-West dialects, as well as Corinthian, Megarian and East Argolic, and together with them also Attic-Ionic (meanwhile extended as far as the west coast of Asia Minor), all these dialects were well prepared for gaining control over the new situation: on the model of their foregoing development they simply shifted the \bar{e} - \bar{o} -results of even this lengthening process into their older close \bar{e} - \bar{o} -pair so that we find in them the spelling EI, OY both in *τῶεῖσα*, *φέρουσα*, *τούς* and in *εἰμί*, *βουλά* (or *—ή*) in contrast to the spelling H, Ω in *ἔθηκε*, *ἔδωκε*. This development was adopted by all the dialects of the innovation type II and IIA, which considerably strengthened the functional loading of their close \bar{e} - \bar{o} -pair in this way. On the other hand, the archaic dialects, which were short of the close \bar{e} - \bar{o} -pair, were bound to adopt another treatment and they followed one of the remaining four ways:

αβ) In Laconian, Messenian, Boeotian, and possibly also in Achaean and Pamphylian, the second lengthening was accomplished quite regularly, its \bar{e} - \bar{o} -results having fused with the local mid-long primary \bar{e} and \bar{o} , bringing a still higher functional load to them. That is why we can find here the spelling Ω not only in *ἔδωκε* and *βωλά*, but also in *φέρωσα* and *τώς*.

β) One part of the Greek dialects disposing of only one \bar{e} - \bar{o} -pair accomplished the second lengthening inside the word only (i.e. only in forms such as *pheronsa* > > *-ōsa*), and not at the end of the word (i.e. not in words like *tons*, which either remained unchanged, or more frequently were simplified into *tōs*). This concerned the Doric dialects of the East Aegean islands, like Rhodes, Cos, Thera etc., further the Cretan subdialects from the western and eastern parts of this island, and also the dialect of Elis. In most of these regions we find participial forms such as *φέρωσα*, written with Ω and indicating a mid-long pronunciation of the lengthened \bar{o} , only in Rhodes and Cos forms such as *ἄγουσα* are documented, but all of them admit a special, mostly supradialectal explanation.

γ) In several dialects the compensatory process went so to say only half-way, resulting in the formation of a „compensatory diphthong“. This was accomplished with full consistence only in Lesbos; see e.g. the forms *φῆροισα*, *τοῖς*. In the Doric world this phenomenon took place either only inside the word (this is the case of Cyrene and exceptionally also of Thera, where we find *παῖσα* instead of *πᾶσα*, and also of Alcman's poems, but not of inscriptional Laconian), or it occurred only at the end of the word (in Elis; where we find the rhotacized *τοῖς* for original *tons* — beside the rather obscure early form *τός*, which is sometimes explained as a lengthened

tōs, but may be better interpreted as a rather archaic *to*'s with a very weakly pronounced *n*.

d) In all the other dialects the second compensatory lengthening was not accomplished at all, this being the case in Thessalian (where not even the first compensatory lengthening took place), in Central Cretan, in West Argolic, and in Arcadian (while the Cypriot situation is difficult to reconstruct).

As it may be seen, the second lengthening must be ascribed a great significance in the development of the Greek language. But it left only limited traces in the rearrangement of the long-vowel system in the Attic-Ionic area. It was here that a new \bar{a} , originating through this lengthening e.g. in $\pi\bar{\alpha}\sigma\alpha$, occupied a vacant place—which was left free after the accomplishment of the change $\bar{a} > \bar{\alpha}$ — and thus increased the number of the Attic-Ionic vowels by one (see type No. IIA in our scheme E). The Attic-Ionic situation at the same time helps us to ascertain the relative chronology of the accomplishment of the second lengthening. Since the lengthened forms like $\pi\bar{\alpha}\sigma\alpha$ were no more tributary to the operation of the change $\bar{a} > \bar{\alpha}$, one may place the second lengthening process, in the Attic-Ionic area at least, approximately into the 9th cent. B.C. And most probably about that same time the functional loading of the new phoneme \bar{a} in Attic was strengthened by the regressive shift of the high-open $\bar{\alpha}$ to \bar{a} after the preceding *e, i, r* e.g. in $\theta\epsilon\acute{\alpha}$, $\omicron\iota\acute{\alpha}$, $\chi\acute{\omega}\rho\alpha$. In the Ionic of Asia Minor the high-open $\bar{\alpha}$ may have already fused with the less open $\bar{\epsilon}$, whereas in the other parts of the Attic-Ionic area it may have still existed as an independent phoneme.

F) The great importance of the second lengthening consisted in the pronounced overloading of the universal long $\bar{\epsilon}$ -, \bar{o} - vowels in some dialects which preserved their original long-vowel system of five long monophthongs even after the operation of this lengthening process. As it may be seen, none of these archaic dialects (probably not even Rhodes and Cos) seems to have been induced by the pressure of the second compensatory lengthening to abandon its old long-vowel system and create a new close $\bar{\epsilon}$ -/ \bar{o} -pair, but in several of these dialects the functional loading of the universal long $\bar{\epsilon}$ -, \bar{o} became extremely high. And this situation led not long after the accomplishment of the second lengthening to the important spread of the „northern“ innovation type with seven (or eight) monophthongs to some neighbouring areas. The frontier between the two types was broken especially by the process of the isovocalic contraction of $e + e$, $o + o$, which presaged a further considerable increase in the frequency of the long $\bar{\epsilon}$ - and \bar{o} - vowels, because this contraction was realized in all Greek dialects without exception.

Moreover, this contraction process was undoubtedly in progress from rather early times. In some Greek dialects (see § 2a) its $\bar{\epsilon}$ - and \bar{o} - results were possibly rather soon incorporated into the local mid-long $\bar{\epsilon}$ - and \bar{o} - pair; this occurred in the majority of the dialects belonging to the archaic type I and in Elis (type I A). In all the innovating dialects of the types II and II A (see § 2b), on the other hand, the $\bar{\epsilon}$ - and \bar{o} - results of this contraction were quite regularly incorporated into the local close $\bar{\epsilon}$ -/ \bar{o} - pair, which phonological development possibly occurred before 700 B.C., too.

In some of the dialects possessing only one pair of $\bar{\epsilon}$ -/ \bar{o} - vowels, however (see § 2c), the universal mid-long $\bar{\epsilon}$ -/ \bar{o} - sounds were no more capable of absorbing the $\bar{\epsilon}$ -/ \bar{o} - results of this contraction, and that is why these dialects entered the said results—apparently after some hesitation — into their long-vowel system as two entirely new independent phonemes of close $\bar{\epsilon}$ - and \bar{o} - quality, while the mid-long $\bar{\epsilon}$ -/ \bar{o} - pair

was shifted at the same time into the open \bar{e}/\bar{o} for the sake of the symmetry of the long-vowel system.

This innovating systemic transformation was accomplished—probably during the eighth and seventh centuries B.C.—in the south-eastern parts of the Greek-speaking world, i.e. in the East Aegean Doric area—but not in the Theran colony Cyrene—, as well as in Western Argolid, and in the dialectally rather obscure Pamphylia, which all areas joined then the systemic type II as a matter of fact. The said geographical distribution justifies us in drawing the conclusion that we meet here with a further, geographically quite well explainable spread of the innovating systemic type with the two pairs of the \bar{e}/\bar{o} -sounds to some more or less adjacent areas. This view finds corroboration also in the fact that we can discern a certain tendency towards this innovation development even in the oldest inscriptions from Central Crete. Cf. e.g. the difference between H in $\delta]πῆλεν < *ophelnen$ (i.e. with the first compensatory lengthening) and between E in $\rhoοομῆν < *kosmeen$ (i.e. with the contraction) in a very old Gortynian inscription GDI 4979. In Crete, nevertheless, this differentiation tendency later failed to assert itself. [And let us add that in Cyrene the motherly Theran strong tendency to side with the same innovation development left no traces at all.]

In some of the above-mentioned dialects, more concretely in the East Aegean Doric area (cf. § 1c), and in the beginning also Central Crete again had displayed the same tendency, the functional loading of the newly arisen close \bar{e}/\bar{o} -pair became, at approximately the same time, increased also by the accomplishment of the third compensatory lengthening of the type *kseuws* > *ksēnos*—perhaps on the example of the Ionic of Asia Minor and of the Cyclades (cf. § 1b) with their likewise close \bar{e} - and \bar{o} -results of the third lengthening. On the other hand, in the Argolic of Argos (and perhaps generally in West Argolic [cf. § 1a]), the local \bar{e}/\bar{o} -results of the third compensatory lengthening—which occurred there only, but nowhere in Eastern Argolid—became involved in the West Argolic open \bar{e}/\bar{o} -pair (so that *H* may occur both in $\xi\theta\eta\kappa\epsilon, \eta\mu\acute{\iota}$ and in $\xi\eta\rho\omicron\varsigma$), while the close long \bar{e}/\bar{o} -quality became applied here to the contracted \bar{e}/\bar{o} only, e.g. in the genitive $\iota\pi\pi\omicron\upsilon$. It seems so that it was just the third compensatory lengthening of the type *kseuws* > *ksēnos* that helped the old universal long \bar{e}/\bar{o} in Argos to attain its ultimate functional climax, so that the \bar{e}/\bar{o} -results of the isovocalic contraction, which was possibly here somewhat later definitively accomplished, had to seek some other, i.e. closer phonemic assertion.—Let us add that the third compensatory lengthening was accomplished only in Argive (or in West Argolic in general), in Cretan and Cyrenaean (where the \bar{e}/\bar{o} -results were incorporated after some hesitation into the local mid-long \bar{e}/\bar{o} -pair), in the Ionic of Asia Minor and of the Cyclades, as well as in East Aegean Doric.

Thus there did not originate a new systemic type as a product of the third compensatory lengthening and the isovocalic contraction of $e + e, o + o$, the only thing that actually happened in our systemic schemes was the transposition of West Argolic, East Aegean Doric (Cyrenaean excluded), and Pamphylian from the archaic long-vowel type with five monophthongs (Type I) to the innovation type with seven monophthongs (Type II). These changes brought about a considerable geographical reduction of the archaic type No. I with five monophthongs, its realm being now restricted only to Arcadia (possibly with Cyprus), Thessalia, Boeotia, Lesbos, Laconia (with Messenia), Crete and Cyrene, in a word, practically to only either peripheral or otherwise more or less isolated areas, which fact appears in

full accord with the archaic character of this long-vowel systemic type (and the same, *mutatis mutandis*, may be said also about Elean with its half-archaic system of six long monophthongs).

In contrast to it, the innovating systemic types II, IIA experienced about that time still greater spread in that they not only incorporated W. Argolic, East Aegean Doric and Pamphylian, but also that, by this time approximately at the latest, the high-open \bar{a} arisen in Attic-Ionic from the primary \bar{a} , or from the \bar{a} produced by the first lengthening, i.e. in forms like *stālā*, definitively fused with the less open \bar{e} in all the Attic-Ionic dialects, except those from some Cycladic islands, like Naxos, Keos and Amorgos. There from such words as the Naxian *κασιγνῆτη* [VI] or as the Kean *Ἰστῆνη* and *Κλένογένεες* from the same inscription [V], the phonemic difference between \bar{a} (arisen from primary \bar{a} and written here with Η) and between the less open primary \bar{e} (written here with Ε) may be deduced for the time as late as the fifth cent. B.C. This, of course, at the same time meant a very radical geographical limitation of the long-vowel system with eight long monophthongs (i.e. of type No. II A), which now remained restricted to Naxos, Keos and Amorgos, and perhaps to some other, less documented Cycladic islands.

A considerable spread of the innovation type with seven long monophthongs is, therefore, the most characteristic feature of the era that we are now discussing. This type was now prevailing to a considerable extent in the central and eastern areas of the Greek world of that time, for the space of its assertion stretched from the Greek north-west, across the Corinthian Gulf and the Isthmus of Corinth to the Saronic Gulf, then throughout its Corinthian, East Argolic, Megarian, Attic and Euboean neighbourhood, and further over the majority of the Aegean islands as far as the central and southern parts of the west coast of Asia Minor, even to Pamphylia. Naturally, it is necessary to point out that the systemic uniformity in question was only an outer one, and that the functional loading and the historical phonic content of the single phonemes was not the same in all the enumerated dialects. In this respect we could roughly distinguish three groups within our Type II:

i) the West Argolic-East Aegean Doric-Pamphylian group (with a certain stress on the open \bar{e} , \bar{e} , this being the outcome of the former long adherence of these dialects to the archaic type with only five long monophthongs);

ii) the Attic-Ionic one (with a functional stress on the open \bar{e} as the result of the accomplished change $\bar{a} > \bar{a} > \bar{e}$);

iii) the East Argolic-Megarian-Corinthian-North West group (without any special stress on phonemes mentioned sub i and ii).

Let us add that this division and especially the distinction between subgroups i) and iii) appears as one of the most important classification differences inside the group of West Greek dialects. In general, we may divide the West Greek dialects according to their development of the long \bar{e} - and \bar{o} - sounds into the following three main groups, whose titles go partly back to the old division of the Doric dialects as made by H.L. Ahrens:²

1. *Doris severior*, comprizing the dialects with only one \bar{e} -/ \bar{o} - pair, i.e. Laconian, Messenian, Cretan, Cyrenaean, and possibly also Achaean (with the inclusion of the half-archaic Elean sub-group).

2. *Doris mitior*, comprizing the dialects with two \bar{e} -/ \bar{o} - pairs going back to the

² H. L. Ahrens, *De Graecae linguae dialectis* II 5ff.

times of the first compensatory lengthening, i.e. North-West dialects, Corinthian, Megarian and East Argolic.

3. *Doris media*, comprizing the dialects with two \bar{e}/\bar{o} pairs going back to the time of the fully completed isovocalic contraction, i.e. East Aegean Doric and West Argolic.

G) By analyzing the above-discussed era we got approximately to the last years of the 8th cent. B.C.; this boundary represents upon the whole the beginning of a new period in the development of Greek dialects, i.e. a period supplying us with inscriptional documents. From this time onward we encounter continuously numerous systemic phenomena, which are for the most part impossible to differentiate from the chronological point of view quite properly. Especially with reference to some long-vowel changes we cannot even say for certain whether they originated in the 7th century or the 6th century or still later. And that is the reason why we shall choose for our next relatively safe point of orientation as late a date as the year 450 B.C.

Before, however, starting a more detailed analysis of this space of time, we have to point out that we are going to enclose in the changes of systemic significance also such processes that led to the monophthongization of the diphthongs *ei*, *ou*. By doing so we do not mean to say that these two diphthongs possibly had the value of independent phonemes, but rather to point out the fact that the monophthongal products arisen from *ei*, *ou* contributed in some way to the functional loading of the monophthongs already existing.

Therefore, we may say that within the space of time between 700 and 450 B. C. there occurred most likely the following five long-vowel system changes of systemic significance (see our schemes G^1 and G^2):

1. the Thessalian shift of the local universal \bar{e} , \bar{o} to the close position of \bar{e} , \bar{o} (cf. e.g. $\mu\epsilon\lambda = \mu\eta$, $\xi\delta\omicron\upsilon\kappa\epsilon = \xi\delta\omega\kappa\epsilon$);
2. the early monophthongization of the diphthongs *ei*, *ou* in a number of dialects;
3. the Attic-Ionic (but not Euboean) change $\bar{u} > \bar{i}$ (with the parallel short-vowel change $u > i$);
- 4.—5. the sporadically documented tendency to shift the close \bar{e} , \bar{o} to \bar{i} , \bar{u} (cf. early Argive $\tau\epsilon\lambda\lambda\iota\tau\bar{o}$, $\acute{\alpha}\varphi\alpha\iota\omicron\iota\sigma\theta\alpha\iota$ and early Corinth. Ἀχιλλεοῦς).

As to the early monophthongization of the diphthongs *ei*, *ou*, we do not find any safe documents of the accomplishment of this phonic process before 450 B.C. (and most probably neither before 350 B.C.) in Arcadian, Cypriot, Lesbian, Elean, Lacedaemonian (nor Messenian), in Cretan and Cyrenaean, that is to say in the majority of the dialects belonging to two most archaic groups of the long-vowel systemic development, i.e. to types I and IA sub \bar{F} . From among these two groups it is only Thessalian and Boeotian that accomplished this early monophthongization process with close \bar{e}/\bar{o} results: Boeotian (see Type II sub G^1 and G^2) developed in this way a quite new close \bar{e}/\bar{o} pair, ousting at the same time the local mid-long \bar{e} , \bar{o} to the position of the open \bar{e} and \bar{o} and enlarging in this way still more the number of dialects with seven long monophthongs, whereas in Thessalian (see Type I B) a special three-grade long-vowel system originated, as the local monophthongization of *ei*, *ou* was preceded by the narrowing tendency $\bar{e} > \bar{e}$, $\bar{o} > \bar{o}$, so that in Thessaly the number of the long-vowel phonemes did not increase. In all the other Greek dialects, displaying already before that time the innovating long-vowel system with two \bar{e}/\bar{o} pairs, the two monophthongization processes were accomplished regularly, entering their close \bar{e}/\bar{o} results in the close \bar{e}/\bar{o} phonemic pair and increasing in this way its functional

loading. — This was the situation registered in our scheme G^1 which has the character of an auxiliary and partial survey of a chronologically complicated set of problems, concerning the long-vowel development between 700 and 450 B.C.

In the course of the phonemic development in this whole space of time, even the innovating system of seven long monophthongs was affected by serious losses. It is true, it was strengthened by Boeotian, but this accession was a transient one, as the phonic content of its close $\bar{\epsilon}$, $\bar{\eta}$ was comparatively small, comprizing only those monophthongs that originated from the former ei , ou , and was incapable of retarding a subsequent shift of this $\bar{\epsilon}$, $\bar{\eta}$ to \bar{i} , \bar{u} (see below H 2). But, on the other hand, the innovating type No. II lost before 450 B.C. a great part of the Attic-Ionic area, and most probably also the dialects of Corinthia and Argos (if not that of the whole Western Argolid).

The first of the two losses concerned Attica, the Ionic Cyclades and the Ionic area of Asia Minor, where as early as in the 7th or 6th centuries B.C. the local long, or also short, \bar{u} was shifted to the central position of \bar{u} , or \bar{u} (see Type III sub G^2). By the accomplishment of this change there arose for the first time in the Greek-speaking world a long-vowel system with a central \bar{u} that is to say with a phonic quality which later became for a number of centuries a typical feature of Hellenistic Greek. The Attic-Ionic area split in this way into three systemic types: Euboea remained true to the older innovating type with seven monophthongs, including the preserved unchanged \bar{u} (see Type II). Attica together with Ionia, and perhaps with some Cycladic islands, separated from this type by creating a kind of its \bar{u} -variant (see Type III). And the area of the islands Naxos, Keos and Amorgos rearranged its hitherto existing system of eight monophthongs, shifting its \bar{u} to \bar{u} , but possibly still maintaining its \bar{e} (see Type III A mentioned sub N.B.). Whereas the last of the three sub-types was bound rather soon to fuse with the second of them, i.e. with Type III, a feature of outstanding significance was above all the fact that Euboean was now distinctly isolated from the rest of the Attic-Ionic world and this isolation appears to have been prospectively a long-lasting one.

The second set of phonological changes which meant another significant loss for the type II were the first indications of the narrowing processes of close $\bar{\epsilon}$ to \bar{i} and of close $\bar{\eta}$ to \bar{u} . We have in mind partly the Argive forms such as $\tau\epsilon\lambda\bar{\iota}\tau\bar{o}$ instead of $\tau\epsilon\lambda\bar{\epsilon}\bar{\iota}\tau\bar{o}$ and $\acute{\alpha}\phi\alpha\bar{\iota}\rho\bar{\iota}\sigma\theta\bar{\alpha}\bar{\iota}$ instead of $\acute{\alpha}\phi\alpha\bar{\rho}\bar{\epsilon}\bar{\iota}\sigma\theta\bar{\alpha}\bar{\iota}$, and partly the Corinthian forms such as the nominative of sing. Ἀχιλλεοῦς with the digraph OY in the last syllable, indicating a very close pronunciation of the monophthong rendered by this digraph. On the contrary, we have no documents proving either the accomplishment of the $\bar{\epsilon} > \bar{i}$ narrowing process in Corinthian or that of $\bar{\eta}$ to \bar{u} in Argive. Nevertheless, we are hardly justified in evaluating the situation in both these dialects in quite the parallel way:

In Corinthian (see Type IV) the change $\bar{\eta} > \bar{u}$ reduced the number of phonemes on the back long-vowel axis, creating thus a situation which from the systemic point of view, to be sure, was asymmetrical, but corresponded well with the articulation capacity in the oral cavity, which is said to be larger on the front axis than on the back articulation axis.³ It was perhaps just a question of time before full symmetry would be restored in this system, but taking into account the said articulation inequality in the oral cavity we might be justified in admitting the accomplishment of the change $\bar{\epsilon} > \bar{i}$ only on the basis of convincing linguistic documentation, and

³ A. Martinet, *Économie des changements phonétiques*, Berne 1955, pp. 95ff.

such a sufficient linguistic documentation is missing in Corinthian within the space of time until 350 B.C. so far. Thus the only positive conclusion we can draw is that in Corinthian there had been formed a simplified long-vowel system with four front phonemes and three back ones as early as in the 7th cent. B.C., while for any further simplification of that system we have so far failed to find satisfactory substantiation.

In contrast to it, the systemic situation in Argos (see Type V) presented a somewhat different picture. If, on the basis of documentary material, we took by the year 450 B.C. for granted the existence of a system with three front phonemes and four back ones, it would mean endorsing a view which is in direct opposition to the current theory about the said articulation capacities of the oral cavity, because in that case the shorter articulation axis (i.e. the back axis) would have to accommodate four phonemes, while the longer front axis would carry only three. Thus it appears probable that in Argos there had by that time likely been accomplished both the discussed changes, i. e. both that of $\bar{e} > \bar{i}$ as well as that of $\bar{o} > \bar{u}$, while the fact that we are short of documentation of the second change is probably a mere matter of chance, and this would, of course, imply the necessity of assuming in the Argolic of Argos (and possibly in the whole Western Argolid) as early as about 450 B.C. — or shortly after — the existence of a symmetrically balanced systemic type with five long monophthongs.

All this means, therefore, that Corinthian and West Argolic struck out a new path towards acquiring once more the character of a three-grade long-vowel system. Especially in Argos rather early a new, fully three-grade system originated, with a somewhat shifted, and more evenly distributed functional loading of the single long monophthongs — this concerning chiefly the long \bar{i} and \bar{u} sounds, which had been slightly loaded in the archaic three-grade system, but whose frequency in Argos substantially increased after the local \bar{i} and \bar{u} had absorbed the local close \bar{e} and \bar{o} . [We have denoted this systemic type in our survey sub G^2 as Type V, or as Type I* with an asterisk.]

H—I During the two remaining periods, which we shall discuss here very briefly, the long-vowel systemic development proceeded in the Greek dialects for the most part along the paths that it struck out in the preceding phases of evolution. In the first of the two periods, i.e. between 450—400 B.C. (see stage *H*), two systemic changes were accomplished, firstly (see *H* 1), the Cycladic shift of the archaic high-open \bar{a} to \bar{e} on Naxos, Keos and Amorgos, which meant only the definite liquidation of the rather unbalanced eight-monophthongs system No. III A; and secondly (see *H* 2), the Boeotian close \bar{e} - and \bar{o} -sounds, which had originated here from the diphthongs *ei/ou* not long before, were narrowed into \bar{i} and \bar{u} . By the accomplishment of this narrowing process Boeotian got now associated — even if for a short time only — with the West Argolic radical innovation type No. V with five long monophthongs, in which the frequency of its phonemic members was rather evenly distributed. Otherwise the majority of the hitherto existing types remained unaltered.

Finally we come to the last period of our investigation, i. e. to the era between 400 and 350 B.C. (see stage *I*). It comprizes two systemic changes, first (see *I* 1) the Attic-Ionic (but not Euboean) shift of the local close \bar{o} to the vacant position of \bar{u} (cf. Type III), and secondly the important Boeotian monophthongization of *ai* to \bar{e} (see *I* 2), which was the first case of the monophthongization of this diphthong in the Greek world and represented a foretoken of a similar phonic change that the Hellenistic Greek was undergoing considerably later. By accomplishing this

Table I. The long-vowel system development in schematic survey:

A. The assumed proto-Greek system

i	ū
ē	ō
ā	

Note: First compensatory lengthening of the type **esmi* > *ēmi*, **bolsā* > *bōlā* was possibly accomplished in Mycenaean (i.e. Peloponnesian Achaean) already, its *ē-/ō*-results having fused with primary *ē/ō*; cf. *-o-pe-ro-si ophēlonsi*? < **opheln-*.

B. 12th-11th cent. B.C.

Elean change *ē* > *ā*: cf. Elean *μά, έα*, documented already in the earliest inscriptions besides the common Greek *μᾶ, εἶᾶ*; this opening process was prior to the first compensatory lengthening in Elean (see sub C) and its resulting *ā* was not identical with the phoneme *ā* (the primary *ā* was never reproduced by E or H).

Type I	Type IA (Elis)	Characterization: Separation of Elean.
i	i	
ē	ē	
ō	ō	
ā	ā ā	

C. ca. 1000 B.C. (or a little earlier)

First compensatory lengthening of the type **esmi* > *ēmi*, **bolsā* > *bōlā* with following documentation:

- a) with *ē-/ō*-results having fused with the primary *ē/ō* in the majority of Peloponnesian and Aegean Doric dialects, in Arc.(-Cypr.?) and Boeot.: *ήμί = έθηκε; βωλά = έδωκε* (as written in the Ionic alphabet)
- b) with close *ē-/ō*-results of this lengthening, constituting an entirely new *ē-/ō*-pair in North-West dialects, Saronic Doric (= Corinth., Megar., East Argol.) and Att.-Ion.: *ειμί ≠ έθηκε; βουλά, -ή ≠ έδωκε*
- c) with an entirely new phonemic *ē*-result in Elean, filling the gap between *ā* and *i*, while the *ō*-result fused with the primary *ō*: *βωλά = έδωκε*
- d) not accomplished at all in Thess. and Lesb.: *έμμι, βόλλα* (with gemination).

Type I	Type IA (Elis)	Type II (North-West, Saron., Att.-Ion.)	Characterization: Origination of a large systemic isogloss with two pairs of <i>ē-/ō</i> -phonemes in the area of Corinthian and Saronic Gulfs.
i	i	i	
ē	ē	ē	
ō	ō	ō	
ā	ā ā	ē	
		ō	
		ā	

D. ca. 900 B.C.

Attic-Ionic change *ā* > *ā*, which is younger than the first lengthening (cf. A.-I. *σῆλη* < *σᾶλᾶ* < **stalnā*), but older than the second lengthening (cf. A.-I. *πᾶσα* < *πᾶσα* < **pan̄sa*; see sub E); the resulting *ā* did not fuse with *ē* so far.

Type I	Type IA (Elis)	Type II (N-W, Saron.)	Type IIA (A-I)
i	i	i	i
ē	ē	ē	ē
ō	ō	ō	ō
ā	ā ā	ē	ē
		ō	ō
		ā	ā

Characterization: Temporary separation of Attic-Ionic from Type II.

E. ca. 800 B.C.

Second compensatory lengthening of the type *pansa* > *pāsa*, *tans* > *tās*, *phronsa* > *pherōsa*, *tons* > *tōs*, *-ens(a)* > *-ēs(a)* with the following documentation:

- a) fully accomplished α) in all dialects of the types D II and D IIA with close *ε-β*-results: *φέρουσα*, *τοῖς* = *βουλά*, *ἦ* ≠ *ἔδωκε*
 β) in *Lac.*, *Mess.*, *Boeot.*, and possibly in *Achaea* and *Pamphylia* with *ε-β*-results having fused with the mid-long primary *ε̄/δ̄*: *φέρουσα*, *τῶς* = *βωλά* = *ἔδωκε*
- b) accomplished only medially with the mid-long results α) in East Aegean Doric, in W. and E. Cretan: *φέρωσα* (occasionally *φέρουσα*) × *τός*
 β) in Elis: *φέρωσα* × *τοῖρ* (and early *τός* = *τοῖς*?)
 α) in all positions on Lesbos: *φέρουσα*, *τοῖς*
 β) medially in Cyrene (and sporad. on Thera): *φέρουσα* × *τός*
 γ) terminally in Elis: *φέρωσα* × *τοῖρ* (and *τός*)
- c) a compensatory diphthong originated
- d) not accomplished at all in *Thess.*, *Centr. Cret.*, *West Argol.*, *Arcad.*: *φέρουσα*, *τό(ν)ς*.

Note: In Attic-Ionic (type IIA) a new *ā*-phoneme originated through this lengthening (e.g. in *πᾶσα*), after the primary *ā* had been shifted to *ā̄* (see sub D). In Attic this new *ā* was soon strengthened by the *ā* arising from *ā̄* in *τᾶ*, *εᾶ*, *ἰᾶ* through the regressive shift. — The Attic-Ionic *ā̄* got fused with *ξ̄* before 700 B.C. at the latest — except some Cycladic islands (Keos, Naxos, Amorgos), where the phonemic difference between *ā̄* (from the primary *ā*) and *ξ̄* (from the primary *ē*) may be established for the time as late as the 5th cent. B.C.: *κασιγνῆτη* (Naxos, VI B.C.), or *Ἰστίη* beside *Κλένογνῆς* (Keos, V).

Type I <i>ī</i> <i>ū</i> <i>ē</i> <i>ō</i> <i>ā</i>	Type IA (Elis) <i>ī</i> <i>ū</i> <i>ē</i> <i>ō</i> <i>ā̄</i> <i>ā</i>	Type II (N-W, Saron.) <i>ī</i> <i>ū</i> <i>ē</i> <i>ō</i> <i>ξ̄</i> <i>ϝ̄</i> <i>ā</i>	Type IIA (A-I) <i>ī</i> <i>ū</i> <i>ē</i> <i>ō</i> <i>ξ̄</i> <i>ϝ̄</i> <i>ā̄</i> <i>ā</i>
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Characterization: In the dialects disposing of only one *ε-β*-pair, the realization of the second lengthening was more or less reduced, or fully blocked, by the too excessive functional loading of their universal *ε-β*-sounds.

F. ca. 700 B.C. (in the case of 2a and 2b possibly well before this date)

- 1. Third compensatory lengthening of the type *kaenwos* > *kaēnos*, (*h*)*orwos* > (*h*)*ōros* with the following rather limited documentation:
 - a) with *ε-β*-results having fused with the primary *ε̄/δ̄* in Cret., Cyren. and W. Argolic: *ξῆνος*, *ῶρος*
 - b) with close *ε-β*-results, identical with those of the older lengthenings, in the Ionic of the Cyclades and of Asia Minor: *ξείνος*, *οῦρος*
 - c) with close *ε-β*-results, constituting together with the results of the isovocalic contraction (see sub F 2) an entirely new *ε-β*-pair, in East Aegean Doric: *ξείνος*, *οῦρος*.
- 2. Isovocalic contraction of *e + e*, *o + o* (type **philee* > *philē*, **hippo* > *hippō*) was accomplished in the whole Greek world with different *ε-β*-results:
 - a) with *ε-β*-results having fused with the primary *ε̄/δ̄* in the majority of the dialects of type I (and with the mid-long *ε̄/δ̄* in Elean): *ἰπῶ* (but *ἰπποι* in Thess.) = *ῶρος* (if lengthened at all) = *φέρωσα* (if lengthened at all) = *βωλά* (if lengthened) = *ἔδωκε* (but Thess. *ἔδουκε*, sec G¹)
 - b) with close *ε-β*-results, identical with those of the compensatory lengthenings, in all the dialects of types II and IIA: *ἰππον* = *οῦρος* (it lengthened at all) = *φέρουσα* = *βουλά*, *-ἦ* ≠ *ἔδωκε*
 - c) with close *ε-β*-results, constituting an entirely new *ε-β*-pair
 - α) together with the results of the third lengthening in East Aegean Doric (and, besides, in Pamphylia): *ἰππου* = *οῦρος* ≠ *φέρωσα* (occasionally, however, also *φέρουσα*) = *βωλά* = *ἔδωκε*
 - β) in contrast to the results of this lengthening in W. Argolic: *ἰππου* ≠ *ῶρος* (but *φέρουσα*) = *βωλά* = *ἔδωκε*.

3. Full accomplishment of the Att.-Ion. change $\bar{a} > \bar{\alpha} > \xi$ outside Keos, Naxos, Amorgos.

Type I i \bar{e} \bar{o} \bar{a}	(Arc.-Cypr., Aeol., Lac.-Mess., Cret., Cyren.)	Type IA (Elis) i \bar{e} \bar{o} $\bar{\alpha}$ \bar{a}	Type II i $\bar{\xi}$ $\bar{\rho}$ \bar{a}	(N-W, Saron.; A-I exc. Naxos etc.; E. Aeg. D., W. Arg., Pamph.)	Type IIA (Naxos etc.) i $\bar{\xi}$ $\bar{\rho}$ $\bar{\alpha}$ \bar{a}	Characterization: Considerable expansion of type II: further spread of the 'northern' innovation systemic isogloss with two \bar{e} - \bar{o} -pairs to certain neighbouring areas; temporary inclusion of most of the Attic-Ionic area.
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G¹) Partial view of the situation after the early monophthongization of ei/ou (before 450 B.C.)

1. Thessalian narrowing of primary \bar{e} , \bar{o} into $\bar{\xi}$, $\bar{\rho}$: cf. $\mu\epsilon\lambda = \mu\eta$, $\xi\delta\omega\kappa\epsilon = \xi\delta\omega\kappa\epsilon$ (this change was prior to the local monophthongization of ei/ou).
2. The early monophthongization of ei/ou into close $\bar{\xi}$ / $\bar{\rho}$ in all the dialects of the types II and IIA, as well as in Thess. and Boeot.: of Ion. $\xi\pi\epsilon\upsilon$ (VI B.C.), Corinth. $\Pi\alpha\tau\bar{\epsilon}\delta\bar{\alpha}$ - (VII); but cf. esp. the early writing of close $\bar{\xi}$ / $\bar{\rho}$ by means of the spelling EI/OY, e.g. in $\epsilon\iota\mu\lambda$, $\tau\omicron\upsilon\delta$.
— On the other hand, in most of the dialects of types I and IA the said monophthongization cannot be safely proved even much later.

Type I i \bar{e} \bar{o} \bar{a}	(A.-C., Lesb., Lac.-Mess., Cret., Cyren.)	Type IA (El.) i \bar{e} \bar{o} $\bar{\alpha}$ \bar{a}	Type IB (Th.) i $\bar{\xi}$ $\bar{\rho}$ \bar{a}	Type II i $\bar{\xi}$ $\bar{\rho}$ \bar{a}	(N-W, Saron.; A-I exc. Naxos.; E. Aeg. D., W. Arg., Pamph.; Boeot.)	Type IIA (Naxos etc.) i $\bar{\xi}$ $\bar{\rho}$ $\bar{\alpha}$ \bar{a}
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G²) ca. 450 B.C.

1. Attic-Ionic change $\bar{u} > \bar{\bar{u}}$ (exc. Euboea).
2. First indications of the narrowing process $\bar{\rho} < \bar{u}$: cf. the early Corinth. $\text{'}\text{A}\xi\phi\lambda\epsilon\sigma\upsilon\varsigma$ (VII) in nom. sing.
3. First indications of the narrowing process $\bar{\xi} > i$: cf. the early Argive $\tau\epsilon\lambda\iota\tau\omicron$, $\acute{\alpha}\varphi\alpha\iota\mu\iota\sigma\theta\alpha\iota$ (V pars pr.).

Note: In Argos the change $\bar{\rho} > \bar{u}$ is not directly documented, but owing to the probable fact that for physiological reasons the shift of $\bar{\rho} > \bar{u}$ preceded that of $\bar{\xi} > i$, one may take for granted the early Argive (or possibly West Argolic in general) accomplishment of both said changes.

Type I (A-C, Lesb., Lac., Mess., Cret., Cyren.)	Type IA (El.)	Type IB (Th.)	Type II (N-W, Megar., E. Arg.; Eub.; E. Aeg. D.; Pamph.; Boeot.)	Type III (A-I exc. Eub.)	Type IV (Cor.)	Type V = I* (W. Arg.)
i ē ō ū ā	i ē ō ū ā ā	i ē ō ū ā	i ē ō ū ē ā ϕ	i ē ō ū ē ā ϕ	i ē ō ū ē ā	i ē ō ū ā

N.B.: For technical reasons we left out type No. III A, which is the 'Naxian' variant of type No. III (still with ā, but already with ū).
 Characterization: Definite separation of Attic-Ionic (exc. Euboean) from type No. II; first indications of the liquidation of the second ē-/ō-pair by closing ē/ō into i/ū.

H) ca. 400 B.C.

1. Cycladean shift ā > ē (Naxos, Keos, Amorgos).
2. Boeotian narrowing process ē > i, ϕ > ū: cf. Πιθαρχος (as to ϕ > ū, see Note to G²).

Type I (A-C, Lesb., Lac., Mess., Cret., Cyren.)	Type IA (El.)	Type IB (Th.)	Type II (N-W, Megar., E. Arg.; Eub.; E. Aeg. D.; Pamph.)	Type III (A-I exc. Eub.)	Type IV (Cor.)	Type V = I* (W. Arg.; Boeot.)
i ē ō ū ā	i ē ō ū ā ā	i ē ō ū ā	i ē ō ū ē ā ϕ	i ē ō ū ē ā ϕ	i ē ō ū ē ā	i ē ō ū ā

Note: The limited Corinthian documentation does not allow us to conclude how long the local system maintained its validity.
 Characterization: Further indications of the tendency to liquidate the second ē-/ō-pair.

I) ca. 350 B.C.

1. Attic-Ionic narrowing process ϕ > ū (exc. Eub.); cf. the fact that Boeotian borrowed the Ionic spelling OY for its ū (e.g. in χρουσιω) before 350 B.C. by way of Attica.
2. Boeotian monophthongization ai > ē:

Type I (A-C, Lesb., Lac., Mess., Cret., Cyren.)	Type IA (El.)	Type IB (Th.)	Type II (N-W, Megar., E. Arg.; Eub.; E. Aeg. D.; Pamph.)	Type III (A-I exc. Eub.)	Type IV (Cor.)	IV* (Boeot.)	V [=I*] (W. Arg.)
i ē ō ū ā	i ē ō ū ā ā	i ē ō ū ā	i ē ō ū ē ā ϕ	i ē ō ū ē ā ϕ	i ē ō ū ē ā	i ē ō ū ē ā [ai]	i ē ō ū ā

Table II. The pronunciation of the primary and the secondary ē-/ō-vowels about 700 B.C. (the linguistic evidence, however, is written in the later Ionic alphabet, consistently distinguishing H from EI and Ω from OY).

I (Arc., Aeol., Lac., Mess., Cret., Cyren.)			IA (Elean)	
Primary ē/ō	ē/ō: ἔθηκε	ἔδωκε	ē: *ἔθᾰκε, μᾰ ↑ [from primary ē]	ἔδωκε
1st length.	ἡμί/0	βωλά/0	ἡμί	βωλά
2nd length.	{ 1/0	φέρωσα/0	0	0
3rd length.	{ 1/0	τώς/0	0	0
3rd length.	ξήνος	ῶρος/0	0	0
Contraction	ἐφίλη	ἰππω	ἐφίλη	ἰππω

II (West Argolic)			II (East Aegean Doric, Pamph.)	
Primary ē/ō	ē/ō: ἔθηκε	ἔδωκε	ē/ō: ἔθηκε	ἔδωκε
1st length.	ἡμί	βωλά	ἡμί	βωλά
2nd length.	{ 0	0	?	φέρωσα
2nd length.	{ 0	0	0	0(τώς Pa.)
3rd length.	ξήνος	ῶρος	ē/ō: ξείνος	οῶρος
Contraction	ἐ/φ: ἐφίλει	ἰππου	ἐφίλει	ἰππου

II (North-West Greek; Corinth., Meg., East Arg.)			IIA (Attic-Ionic area)	
Primary ē/ō	ē/ō: ἔθηκε	ἔδωκε	[+ νίκη from primary ā]	
1st length.	ē/ō: εἰμί	βουλά	ē/ō: ἔθηκε	ἔδωκε
2nd length.	{ -εῖσα	φέρουσα	ē/ō: εἰμί	βουλή
2nd length.	{ ?	τούς	-εῖσα	φέρουσα
3rd length.	0	0	-εις	τούς
3rd length.	0	0	ξείνος/0	οῶρος/0
Contraction	ἐφίλει	ἰππου	ἐφίλει	ἰππου

change Boeotian separated then from the West Argolic systemic type, producing its own systemic formation of six monophthongs (see Type IV* with an asterisk), which outwardly appears to resemble the Corinthian system, but which was entirely different if the historical content of the individual phonemes in Boeotian is taken into account. In this respect, Boeotian of the middle of the 4th cent. B.C. actually

turns out to be the most progressive among the Greek dialects from the point of view of its long-vowel system development.

Having discussed these changes, we have reached the chronological boundary of 350 B.C. This date is the terminus of our investigation. About the middle of the 4th century B.C. every attempt to outline a complex picture of the long-vowel systemic situation in the Greek dialectal world becomes a problematic task because subsequent to this time limit we can no more differentiate consistently the truly dialectal phonetic changes, occurring within each individual area, from various supradialectal levelling tendencies.

КРАТКИЙ ОБЗОР РАЗВИТИЯ ДРЕВНЕГРЕЧЕСКОЙ СИСТЕМЫ ДОЛГИХ ГЛАСНЫХ (ДЛЯ ДИДАКТИЧЕСКИХ ЦЕЛЕЙ)

Автор дает краткий обзор главных черт развития древнегреческой системы долгих гласных (с расчетом на его употребление в вузах), сопровождая свое изложение наглядными таблицами.

STRUČNÝ PŘEHLED VÝVOJE STAROŘECKÉHO DLOUHOVOKALICKÉHO SYSTÉMU PRO DIDAKTICKÉ ÚČELY

Autor podává v stručném přehledu rozbor hlavních vývojových rysů starořeckého dlouhovokalického systému — s určením pro aplikaci ve vysokoškolské výuce — a doprovází svůj výklad přehlednými tabulkami.

