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**The development of the long-vowel system in separate Greek dialects till 350 B.C.**

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## X

### THE DEVELOPMENT OF THE LONG-VOWEL SYSTEM IN SEPARATE GREEK DIALECTS TILL 350 B.C.

By discussing the so-far-said phonic processes we have put together enough of differential material to be able to attempt now—analagically to our similar attempt presented in the study of the development of the consonantal system—an outlining of the entire development of the proto-Greek long-vowel system from the presumed conditions prevailing in the proto-Greek stage down to the time when the specific features of the single dialects fade, swallowed up by the rising tide of Koine.

When using the expression “proto-Greek”, we have in mind the language which is the common cradle of all the gradually arising dialectal differences, ascribing it a uniform system of its phonemes. It is, of course, possible that in our effort to reconstruct this proto-language on the basis of analyzed material, which is mostly many centuries younger, we have substantially simplified the conditions that actually existed in those ancient times, and that our assumption of a uniform Greek long-vowel system in the 2nd millennium B.C. is rather an a priori speculation. Anyway, so far we are utterly unable to say anything more definite about the potential dialectal differences of that time, especially with regard to the question whether such differences, if any, had already then a real systemic significance—in spite of the opposite assertion of Pisani, who believes in a threefold Indo-European foundation of Greek.<sup>301</sup>

As to the final terminus of our investigation period, we have fixed it late enough to guarantee that our final systemic classification of the Greek dialects has been accomplished with reference to a time when all the main dialects were represented by a sufficient number of documents, while early enough to avoid classification of such inscriptions that were already distinctly influenced by Koine. This final boundary—as we have already stated—would best correspond with approximately 350 B.C.

In between these two chronological limits, i.e. the early centuries of the 2nd

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<sup>301</sup> See esp. V. Pisani, *RhM* 98, 1--18, and *Lingua Posnaniensis* 7, 25--46.

millennium B.C. and the period about 350 B.C., we shall be inserting partial synchronic systemic analyses, attempting them as a rule after dealing with some major complex of systemic changes. It is, however, necessary to warn the reader that we shall hardly be able to escape schematizing, at least to a certain extent. First of all, all the phonetic changes—especially the older ones—cannot be satisfactorily fixed from the chronological point of view. Then, some of the identical changes were occurring in different dialects in different times, while some other phonic processes were passing through multiple phases not easily distinguishable from each other as to time. And finally, it often happened that one complex of changes was overlaying another one, so that any attempt to draw a line between them may occasionally give the impression of a forcible perspective approach.

Thus it will be necessary to see in our partial analyses, and specially in the systemic schemes presented on tables (pp. 169sqq.), mere working implements, whose object it is to supply us,<sup>302</sup> even at the cost of certain inevitable distortion, with at least an approximate picture of the long-vowel systemic relations existing between the single Greek dialects at various times of their development.

A) As a starting point in research into the long-vowel system of each Greek dialect we must consider the presupposed form of the proto-Greek long-vowel system which we have on page 46 declared to be the working basis of our further comparison of the long-vowel systemic conditions in each of the dialects. This system contained, according to our theory, five long monophthongs, while we were admitting that nothing definite could be said about the possible monophonemic character of the proto-Greek diphthongs. The above-mentioned proto-Greek system of five long monophthongs was at the same time equal with its three-grade triangular diagram to the contemporary short-vowel system.

B) The first differentiation process within this presupposed uniform proto-Greek long-vowel system occurred evidently very early in the Greek North-West, when, most likely under the influence of the pre-Greek substratum, the proto-Greek long  $\bar{e}$  shifted to a very open position, yes, maybe even to the position of  $\bar{a}$ , while we cannot altogether exclude the possibility of the up-till-then existing central  $\bar{a}$  shifting backward at the same time. This tendency likely had its course in the local pre-Doric Achaeae dialects already, the scene being North-West Greece and the time the latter half of the 2nd millennium B.C. Due to the fact, however, that these pre-Doric Achaeae dialects had no direct continuation in the first millennium B.C., the existence of this tendency can safely be verified only in the West-Greek, i.e. Doric Elean, the latter dialect taking it over—probably as early as in the 12th cent. B.C.—from some Achaeae dialect spoken in Elis before the arrival of the Dorians. From the systemic point of view, this assumed Elean change  $\bar{e} > \bar{a}$  was significant only in producing somewhat changed dislocation of the monophthongal members of the

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<sup>302</sup> See p. 16.

long-vowel system, the total number of the long-vowel phonemes in the Doric Elean of that time remaining unaltered.

C) The first really very important systemic differentiation in the long-vowel system, however, came into being in connection with the accomplishment of the first compensatory lengthening (type *\*esmi* > *ēmi*). This phonic change implied namely a danger that the possible forthcoming fuse of the secondary long-vowel results of the said lengthening with the respective primary long monophthongs would result in a number of words in question in the reduction of distinctiveness, and for this reason some Greek dialects refused to accomplish the mutual fuse of the two groups of long monophthongs from the very beginning, i.e. of the long monophthongs with the *ē*- and the *ō*- phonic shades, keeping the secondary and the primary *ē*, *ō* strictly apart. In this way there originated in these dialects double *ē* and *ō*, and the long-vowel system got thus enriched by two new members, the secondary *ē*, *ō* occupying the position of the close *ɛ*, *ɔ*, whereas the primary *ē*, *ō*, which had up till then had a mid-position, shifted apparently to the open position of *ɛ*, *ɔ*. On the other hand, of course, the secondary *ā*, *ī*, *ū*, which were products of the first compensatory lengthening as well, were absorbed in all Greek dialects without exception by the up-till-then existing *ā*, *ī*, *ū*; in the case of *ī* and *ū* it may be explained by the comparatively small frequency of all the *ī* and *ū* phones in general in the archaic phases of Ancient Greek, while as to all the three just-mentioned long vowels, we may say that their position in the terminal points of the system was doubtlessly less favourable for systemic doubling.

It is noteworthy that this revolutionary phonemic transformation of the hitherto existing three-grade system into a four-grade one—which probably was the most important event in the entire phonemic development of the Greek long vowels—apparently did not originate quite independently in each of the single Greek dialects accomplishing this transformation, but most likely had the character of a quite regular systemic isogloss, springing from one geographic nucleus. To be sure, today we are not in the position of safely localizing this nucleus, but its birthplace must have been somewhere in the area of the Corinthian and the Saronic Gulfs, as we may judge from the occurrence of this phenomenon resulting from the first compensatory lengthening just in the North-West dialects (excluding Elean, but possibly including the “Doric” Achaean of the first millennium B.C.), in the Corinthian-East Argolic-Megarian area, and in the Attic-Ionic region.

As to chronology of the origin of this systemic transformation, it is essentially determined by the time limit of the first compensatory lengthening—i.e. the phonic change which directly gave rise to the transformation—and as the first compensatory lengthening was accomplished about the turn of the 2nd and 1st millennia B.C., we may conclude that the transformation of the three-grade system into a four-grade one must have commenced about 1000 B.C., too.

Unaffected by this transformation remained two types of Greek dialects. These

were partly those dialects that escaped the first compensatory lengthening, so that there was no ground in them for the existence of double  $\bar{\epsilon}$ ,  $\bar{o}$  (this concerns Thessalian and Lesbian, in which the phones that in the rest of the Greek world were subjected to the first compensatory lengthening got liquidated by gemination also near the threshold of the 1st millennium). And secondly, there existed a number of Greek dialects in which the 1st compensatory lengthening had quite normal course, and which, nevertheless, stood apart from this systemic transformation occurring at that time. This again concerns Arcadian, Cypriot, Pamphylian, Boeotian, Laconian with associated Messenian, West Argolic, Cretan, and the East Aegean Doric dialects, and, as to the long-vowel back row, also Elean (see further more detailed discussion on this dialect). At the same time, for this conservative tendency to maintain the more ancient systemic condition in these dialects—and this in spite of the considerably increasing functional overloading of the only, the universal  $\bar{\epsilon}$ ,  $\bar{o}$  in these dialects—there can hardly be found any other explanation except that the force of the systemic isogloss manifesting itself in the transformation of the three-grade system into a four-grade one managed to assert itself only in the former group of dialects of the area adjoining the Corinthian and Saronic Gulfs, whereas further spread of this isogloss was evidently stopped by some geographical factor (e.g. mountains on the Arcadian boundaries), or maybe also by differences in political orientation. To be sure, we may also admit the possibility that the above-mentioned innovation might have more or less affected also some other neighbouring territories, this influence, however, being perhaps later erased without leaving more pronounced traces.

As we have already indicated, Elean occupies a special place among dialects accomplishing the 1st compensatory lengthening.<sup>303</sup> On the one hand, in the back long-vowel row the new  $\bar{o}$  produced by the 1st compensatory lengthening fused with the hitherto existing Elean mid  $\bar{o}$ , while in the front long-vowel row the newly arisen  $\bar{\epsilon}$  assumed its place as an independent phoneme—either in the form of the mid  $\bar{\epsilon}$  or of the close  $\bar{\epsilon}$ —between the phoneme  $\bar{\iota}$  and the phoneme  $\bar{\alpha}$  into which evidently the original mid  $\bar{\epsilon}$  got transformed some time before. Thus there arose in this dialect a special system of six monophthongs. About this system of six monophthongs we cannot even declare for certain whether it could be reproduced by the triangular diagram with four grades in the front ( $\bar{\iota}$ ,  $\bar{\epsilon}$ ,  $\bar{\alpha}$ , central  $\bar{a}$ ) and three in the back row ( $\bar{u}$ ,  $\bar{o}$ , central  $\bar{a}$ ), or whether the system was a quadrangular one, having three grades in front ( $\bar{\iota}$ ,  $\bar{\epsilon}$ ,  $\bar{\alpha}$ ) and three behind ( $\bar{u}$ ,  $\bar{o}$ , back  $\bar{a}$ ). Owing to this uncertainty we shall enclose in our Supplement on Table C—as we have already pointed out in chapter VII, sub A, p. 98—such diagram of the Elean system as would combine both these possibilities.

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<sup>303</sup> We do not take here into account the Corinthian  $\sigma\tau[\bar{a}]\theta\omicron\varsigma$  or other similar expressions quoted on p. 91—owing to their typically sporadic occurrence.

By the transformation of the hitherto existing three-grade long-vowel system into a four-grade one—as it was accomplished in connection with the 1st compensatory lengthening throughout a part of the Greek-speaking territory about 1000 B.C.—the entire area of the Greek language, which before was characterized by the same number of five long monophthongs (even in Elis, in spite of its open  $\bar{a}$ -quality of the original  $\bar{e}$ ), got now thus divided into as many as three parts with respect to the number of long-vowel phonemes. One of these partial areas—the most archaic one and consistently adhering to the proto-Greek three-grade system—still had only five monophthongal phonemes at its disposal. This area comprised the majority of the Greek dialects of that day, yet, concerning their long-vowel system, the feature these dialects had in common was just the above-said archaizing tendency to preserve the original proto-Greek condition, without their being otherwise distinctly akin.

In contrast to this archaizing tendency there existed at that time two other partial areas, favouring more or less innovation. The more extensive and the more radical of the two was the area with a typical increase of the long monophthongal phonemes to seven (i.e. plus one extra  $\bar{e}$ -,  $\bar{o}$ -couple). This situation concerns the North-West dialects (Elean excepting, but probably including the dialect of Peloponnesian Achaea), further Corinthian, Megarian, and East Argolic, and finally the whole of the Attic-Ionic group of dialects, which was just at that time experiencing its process of expansion eastward. The second innovation area, comprising a much smaller territory and including only Elean, was, so to say, half way between the archaizing group and the group with radical innovation tendency, its characteristic feature being the before-mentioned long-vowel system with six monophthongs.

D) Within the most radical innovation area with seven monophthongs another differentiation process sets in about 900 B.C., this being approximately the time when, most likely under the influence of the Asia Minor substratum, the change  $\bar{a} > \bar{e}$  was accomplished in the Attic-Ionic dialects. It is true that this change itself did not result in an increase of the number of the long-vowel phonemes in these dialects, nevertheless, within the system the mutual relations of the long monophthongs got somewhat re-shaped.

The accomplishment of the Attic-Ionic change  $\bar{a} > \bar{e}$  therefore means that in place of the three partial groups of dialects which we have pointed out sub C we must now distinguish four types when considering the situation in the dialectal long-vowel system differentiation: the first is the archaic one, with five monophthongs (dialects unaffected by any innovation); the second may be called half-archaic, admitting innovation only on the front long-vowel row and having six monophthongs in all (it is represented only by Elean); the third with consistent innovation on both the axes, but with an  $\bar{a}$  that did not shift to the position of  $\bar{e}$  (the North-West dialects, Elean excepting, but very likely including the Achaean of Peloponnesos, Megarian, Corinthian and East Argolic); and finally the fourth type, likewise with consistent innovation in both the rows and with seven monophthongs, the  $\bar{a}$  being,

however, shifted to the position of  $\bar{e}$  (the Attic-Ionic area). At the same time it is not altogether impossible, when taking into account the assumed spread of the change  $\bar{a} > \bar{e}$  from the east, that especially in Ionia the newly arisen  $\bar{e}$  fused so soon with the open  $\bar{e}$  that it might not even be necessary there to ascribe this transitional  $\bar{e}$  the character of an independent phoneme. This possibility, however, we have not entered in our systemic scheme under D as a special item<sup>304</sup> (it may be, however, seen from the scheme presented on p. 104).

E) The next change in the relations of the long-vowel systems in the Greek dialects occurred in connection with the accomplishment of the second compensatory lengthening (type *ens* > *ēs*, *tons* > *tōs*, \**pantja* > *pansu* > *pāsa*) at some time in the 9th cent. B.C. Now, although this lengthening must be ascribed a great significance in the development of the Greek language, its accomplishment resulted in a rearrangement of the long-vowel system in the Attic-Ionic area only. It was namely just here that a new  $\bar{a}$ , originating in this way, could occupy a vacant place—which had been unoccupied since the accomplishment of the change  $\bar{a} > \bar{e}$ —and thus increase the number of the Attic-Ionic vowels by one. In this way, the total number of the long monophthongs amounted to eight. This new system may be demonstrated either by a triangular diagram with five members in the front row ( $\bar{i}$ ,  $\bar{e}$ ,  $\bar{e}$ ,  $\bar{a}$ , central  $\bar{a}$ ) and four in the back row ( $\bar{a}$ ,  $\bar{o}$ ,  $\bar{o}$ , central  $\bar{a}$ ), or as a quadrangular scheme with four signs in the front row ( $\bar{i}$ ,  $\bar{e}$ ,  $\bar{e}$ ,  $\bar{a}$ ) and four in the back row ( $\bar{u}$ ,  $\bar{o}$ ,  $\bar{o}$ , back  $\bar{a}$ ). Considering, however, that the existence of the back quality of the newly arisen  $\bar{a}$  cannot be safely proved, we prefer in our Attic-Ionic scheme of E the triangular diagram.<sup>305</sup>—Finally it is necessary to mention even here, by way of a marginal note at least, the possibility<sup>306</sup> that in the Ionic of Asia Minor the phoneme  $\bar{e}$  may have been completely transformed into  $\bar{e}$  before the time when the second complementary lengthening was accomplished there, and in this case, the said Ionic territory would have entered after the accomplishment of this lengthening upon a systemic phase which is attributed by us to Attic-Ionic later, in our systemic picture F, and which in our systemic scheme E fully corresponds with the Corinthian-East Argolic-Megarian type and that of North-West Greece.

The Attic-Ionic dialects were the only ones in which the second lengthening directly produced a systemic transformation. Yet, there was an indirect systemic influence even outside the Attic-Ionic area, manifesting itself in the fact that it resulted in some dialects of the archaic group with five monophthongs in such functional overloading of the hitherto universal  $\bar{e}$ ,  $\bar{o}$  that later the newly arising types of long  $\bar{e}$ - and  $\bar{o}$ -phones, especially those that were products of *e+e*, *o+o*

<sup>304</sup> Yet, this possibility is indicated by arrow-head pointing from  $\bar{i}$  to  $\bar{e}$ .

<sup>305</sup> As we have already stated on p. 106 we cannot exclude the quite plausible possibility that the said quadrangular system came into existence in Naxos, Keos and Amorgos and kept there existing till the 5th cent. B.C.

<sup>306</sup> Even here the said possibility is indicated by arrow-head pointing from  $\bar{e}$  to  $\bar{e}$  (cf. Note 304).

contraction and of the so-called third compensatory lengthening, did no more fuse with the hitherto universal  $\bar{e}$ ,  $\bar{o}$ , but endeavoured to find a new, phonemically different assertion. This significant phenomenon may be observed especially in Pamphylian and East Aegean Doric,<sup>307</sup> Cyrene excepting.<sup>308</sup>

It is manifest that the functional loading of the  $\bar{e}$ - and  $\bar{o}$ -phones had a rather pronounced influence on the fortunes of the long-vowel system in quite a number of Greek dialects: it is best testified by the fact that the second compensatory lengthening had its course practically in all the innovation dialects with two phonemic  $\bar{e}$ - $\bar{o}$ -couples (only East Argolis excepting), that is to say, in all the then existing dialects whose long-vowel system disposed of eight monophthongs (Attic-Ionic area), and in nearly all the dialects with seven monophthongs (Corinthian, Megarian, North-West dialects), while its validity proved essentially weaker in the archaizing area of dialects with six or five long monophthongs, i.e. in dialects not equipped with the second complete phonemic  $\bar{e}$ - $\bar{o}$ -couple. In the latter sphere of dialects the second compensatory lengthening asserted itself upon the whole consistently only in Pamphylian, Boeotian, and Laconian,<sup>309</sup> while in the other dialects of this type, in contrast to it, the accomplishment of the second compensatory lengthening remained essentially restricted to the middle of the word<sup>310</sup> (in Elean, West and East Cretan, and in East Aegean Doric, Cyrene excepting), or else the tendency towards accomplishing the second compensatory lengthening resulted more or less only in the production of a compensatory diphthong (in Lesbian in every position in the word, in Elean in terminal position only—though even in this position we sometimes find in Elis the compensatory monophthongs—, and in Cyrenaean [and in odd cases also in Thera]<sup>311</sup> in the middle of the word), whereas in some of the dialects we find not as much as an indication of this lengthening (here we have to mention Arcadian and possibly also Cypriot, and further Thessalian, West Argolic, and Central Cretan). As we see it, this comparatively restricted assertion of the second compensatory lengthening in the then existing systemic types of the Greek dialects

<sup>307</sup> An analogical situation likely arose later in Argos when the results of the third compensatory lengthening fused there with the universal  $\bar{e}$ ,  $\bar{o}$ , while the results of the contraction struck a new path, resulting in the new close  $\bar{e}$ ,  $\bar{o}$  (see pp. 72sq.). At the same time it is interesting that Argolis altogether missed the second compensatory lengthening—as if its own  $\bar{e}$ ,  $\bar{o}$  had already been overloaded—yet later managed to absorb the results of the third compensatory lengthening by its universal  $\bar{e}$ ,  $\bar{o}$ .

<sup>308</sup> In Cyrene namely only the compensatory diphthongs may be found, their occurrence being restricted to the medial positions in the word only. Cf. Note 121.

<sup>309</sup> We do not include in our discussion Alcman's expressions with compensatory diphthongs (cf. p. 66).

<sup>310</sup> The end of the word was evidently of distinctly greater importance, and that is why in the dialects of the said type there either often originated in it just a compensatory diphthong (in Elean), or else the compensatory process did not occur in it at all, not even by indication (in West and East Crete and in East Aegean Doric). Cf. above page 67.

<sup>311</sup> Cf., e.g., the Thera  $\pi\alpha\bar{\iota}\sigma\alpha$  (see Note 121).

with six or five long monophthongs definitely may at least partly be explained with the excessive functional overloading of the universal  $\bar{e}$ ,  $\bar{o}$  in dialects that had up till then not experienced any systemic innovation consisting in the coupling of the  $\bar{e}$ - and  $\bar{o}$ -phonemes.<sup>312</sup>

F) It was probably not long after the accomplishment of the second compensatory lengthening that in connection with the process of equivocalic contraction  $e+e$ ,  $o+o$  further increase in the frequency of the long  $\bar{e}$ - and  $\bar{o}$ -phones became manifest in all the Greek dialects without exception. This circumstance had a powerful systemic effect, as we have already indicated under E, consisting namely in the fact that in some of the dialects of the archaic type, disposing of five long monophthongs only, the up-till-then existing universal  $\bar{e}$ -,  $\bar{o}$ -sounds were no more capable of absorbing the  $\bar{e}$ - and  $\bar{o}$ -results of this contraction, and that these dialects entered the said results into their long-vowel system as a couple of phonemes of close  $\bar{e}$ -,  $\bar{o}$ - quality, i.e. as  $\bar{e}$ ,  $\bar{o}$ .

This process occurred—probably at some time in the eighth century B.C.—in the south-east and partly also in central-east part of the Greek-speaking world (in Pamphylian, in East Aegean Doric—excluding the Theran colony Cyrene, in which the original Theran tendency to side with this innovation development most likely failed—and among the dialects without the second compensatory lengthening in West Argolic), all this justifying us, in our opinion, to draw the conclusion that, as a matter of fact, we meet here, in these areas, with a further, geographically quite well explainable spread of the innovation systemic type with seven or eight long monophthongs to some more or less neighbouring dialect areas. This view finds some corroboration also in the fact that we can disclose a certain tendency towards this innovation development—although later, just like in Cyrene, it failed to break through—even in the oldest inscriptions from Central Crete, that is to say in documents coming from a country which may rightly be attributed a geographic contact with the above-mentioned dialects, as well.

In some of the mentioned dialects—namely in the East Aegean Doric dialects, and in the beginning it must have been also Cyrene and Central Crete that displayed the same tendency—the functional loading of the newly arisen phonemic couple  $\bar{e}$ ,  $\bar{o}$  got approximately at the same time increased also by the accomplishment of the third compensatory lengthening (type *ksenwos* > *ksēnos*), i.e. when in the close  $\bar{e}$ ,  $\bar{o}$  also the  $\bar{e}$ - and  $\bar{o}$ - results of this phonic change were included. As we have already pointed out in Chapter V, p. 72, it is not altogether excluded that the third compensatory lengthening was accomplished in the said dialects, as a matter of fact, directly on the example of the Ionic of Asia Minor and of the Cyclades with their likewise close  $\bar{e}$ - and  $\bar{o}$ -results of this lengthening (in contrast to the rest of the Attic-Ionic dialects, in which the third compensatory lengthening evidently did not

<sup>312</sup> It is worth noting once more, however, that when Argos and Cyrene later experienced the third compensatory lengthening, their universal  $\bar{e}$ -,  $\bar{o}$ - couple was quite capable of absorbing the  $\bar{e}$ -,  $\bar{o}$ - sounds that had arisen in the course of this lengthening process.

take place at all). On the other hand, in the Argolic of Argos (i.e. in the Argive subdialect of Argolic) the  $\bar{e}$ - and  $\bar{o}$ -results of the third compensatory lengthening—occurring here only, and nowhere in the rest of Argolis—became involved in the later Argive open  $\bar{e}$ ,  $\bar{o}$ , i.e. in the original Argive universal mid  $\bar{e}$ ,  $\bar{o}$ , while the close  $\bar{e}$ -,  $\bar{o}$ -quality got here applied to the contracted  $\bar{e}$ ,  $\bar{o}$  only. Considering the fact that we could deduce from it that in Argos the third compensatory lengthening was an older phenomenon than the local contraction  $e+e$ ,  $o+o$ , we might go as far as to express the opinion that it was just the third compensatory lengthening that helped the universal  $\bar{e}$ ,  $\bar{o}$  in Argos to attain its ultimate functional climax, so that the somewhat later  $\bar{e}$ - and  $\bar{o}$ -results of the equivocalic contraction had to seek here some other phonemic assertion.<sup>313</sup> This explanation is, of course, a mere speculative hypothesis, because we cannot a priori exclude another possibility, namely that the  $\bar{e}$ - and  $\bar{o}$ -results of the third compensatory lengthening fused later in Argos directly with the open  $\bar{e}$ ,  $\bar{o}$ , i.e. that the said lengthening occurred there only subsequent to the local (i.e. West Argolic in general) origination of the second (close)  $\bar{e}$ -/ $\bar{o}$ - couple through the  $e+e$ ,  $o+o$  contraction.

Thus, as we can see, there did not originate a new systemic type as a product of the third compensatory lengthening and the equivocalic contraction  $e+e$ ,  $o+o$ , the only thing that actually happened in our systemic schemes, in connection with further penetration of the innovation type characterized by the phonemic “doubling” of the  $\bar{e}$ - and  $\bar{o}$ -phones, was the transposition of West Argolic, Pamphylian, and East Aegean Doric (Cyrenaean excluded) from the archaic type with five long monophthongs to the innovation type with seven monophthongs. These changes brought about a considerable geographical reduction of the archaic long-vowel type with five monophthongs, for henceforth its only representatives were Arcadian with Cypriot, Thessalian, Boeotian, Lesbian, Laconian (with Messenian), Cretan and Cyrenaean, in a word, practically only either peripheral dialects or otherwise more or less isolated, which fact appears in full accord with the archaic character of this long-vowel systemic type (after all, the same may be said also about Elean with its half-archaic system of six monophthongs).

In contrast to it, the systemic long-vowel type with seven monophthongs found in the 8th cent. B.C. further support from a new source, since namely by this time, at the latest, the  $\bar{e}$ -quality, arisen from the primary  $\bar{a}$ , or from  $\bar{a}$  produced by the first compensatory lengthening, definitely fused with the quality  $\bar{e}$  in all the Attic-Ionic subdialects, except those of Naxos, Keos, and Amorgos in the Cyclades. In this way the innovation type with seven long monophthongs endorsed a considerable part of the Attic-Ionic territory, even if the functional loading of the single phonemic units had meanwhile undergone some changes and their historical

<sup>313</sup> We are, of course, so far not able to explain satisfactorily the absence of the second compensatory lengthening in Argos, the aspect of functional loading playing in this case, as it seems, no important part. See Notes 307 and 312.

phonic content had been somewhat shifted.—This, of course, meant at the same time a very radical geographical limitation of the still existing long-vowel type with 8 monophthongs, which now remained restricted to Naxos, Keos, and Amorgos.<sup>314</sup>

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 just in the central 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, then throughout its Argolic-Megarian-Attic-Euboean neighbourhood, and further over the majority of the Aegean islands as far as the central and south part of the west coast of Asia Minor, yes, 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: 1. the Attic-Ionic one (with a functional stress on phoneme  $\bar{\epsilon}$  as result of the accomplished change  $\bar{a} > \bar{e} > \bar{\epsilon}$ ),<sup>315</sup> 2. the West Argolic-Pamphylian-East Aegean Doric group<sup>316</sup> (with a certain functional stress on the open  $\bar{\epsilon}$ ,  $\bar{\rho}$ , this being the outcome of the former adherence to the archaic type with an only  $\bar{\epsilon}$ ,  $\bar{\rho}$ ), 3. East Argolic-Megarian-Corinthian-North West group (without any special stress whatsoever on phonemes mentioned in 1. and 2.).

G) By analyzing the above-discussed era we got approximately to 700 B.C.; this boundary represents upon the whole<sup>317</sup> the beginning of a new period in the development of Greek dialects, i.e. a period supplying us with inscriptional documents. From this year onward, up to 350 B.C., which we have made the terminal year of our investigation, we encounter numerous systemic phenomena, which it is for the most part impossible to differentiate and file chronologically as we should like to. At the same time we have to deal here very often with rather detailed differentiation phenomena, placing many-a-time just one dialect, or a very small number of them, apart from their respective systemic type.

The period stretching from 700 to 350 B.C. would in any case be far too long to be taken for a basis of our further partial systemic investigation. Yet, the chronological complexity resulting from the act of one systemic change overlaying another is within this period so great that we actually feel at a loss when attempting

<sup>314</sup> As to the possibility that this system may have even had the quadrangular form, see Note 305 and p. 106. We are indicating this possibility by means of an arrow-head on the Table G (see p. 177).

<sup>315</sup> Within this group it is necessary to differentiate Attic from the rest of the Attic-Ionic dialects belonging to this type (the Attic  $\bar{a}$  displayed after all a somewhat greater frequency in consequence of the former reverse shift of the phonic combinations  $r\bar{a}$ ,  $e\bar{a}$ ,  $i\bar{a}$  to  $\bar{r}\bar{a}$ ,  $\bar{e}\bar{a}$ ,  $\bar{i}\bar{a}$ ).

<sup>316</sup> Even here we must count with some interior differences (cf. p. 88 and Notes 223, 224).

<sup>317</sup> The most ancient Attic inscription (see Schw. App. I 1) is older by a quarter of a century (cf. Jeffery, *Local Scripts* 76).

to find another time limit, subsequent to 700, at which we could successfully perform the next synchronic section in the structure of the Greek dialects. With reference to some long-vowel changes of systemic significance which we encounter in this period we cannot even say for certain whether they originated in the 7th cent., or the 6th, or perhaps later still. It should not, therefore, surprise the reader if we are going to choose for our next relatively safe point of orientation in the progress of our systemic analysis as late a date as 450 B.C. although not even this date makes us feel absolutely sure that all the long-vowel systemic changes which we shall discuss as occurring between 700 and 450 B.C. have with quite full certainty been accomplished everywhere prior to 450 B.C.

Before, however, commencing a detailed analysis of the systemic changes associated with the above-mentioned space of time we shall have to point out our intention to enclose in these changes also all such processes that led to the monophthongization of the diphthongs *ei*, *ou*—quite irrespective of the fact whether their outcomes were any new phonemic qualities in the long-vowel system or not. Our motive in doing so is, however, not an intention to lay stress on our hypothesis about the possible monophonemic value of these two diphthongs (we have already stated that we are far from underlying forcefully our systemic arguments by an excessive application of this hypothesis), but rather our belief that even the mere circumstance that the monophthongal products arisen from *ei*, *ou* did no more but flowed into some already existing phonemes and thus contributed to their functional loading is a sufficient reason why we should attribute to these monophthongization processes significance from the systemic point of view. Just for this reason we keep also indicating regularly in our tabular systemic schemes in parentheses how many diphthongs, even if biphonemic, still existed in each of the dialects in question as a probable source of further monophthongizations, and at the same time also as a source of either the origination of new long-vowel phonemes or of increasing the hitherto existing functional loading of any of the older long-vowel phonemes.

If we thus extend the sphere of our systemic interest even in this direction, we may say that within the space of time whose boundaries we have fixed above there occurred most likely in the Greek world four long-vowel systemic changes, namely: 1. early<sup>318</sup> monophthongization of the diphthongs *ei*, *ou*, 2. the Thessalian shift of the universal  $\bar{e}$ ,  $\bar{o}$  to the close positions of  $\text{ɛ}$ ,  $\text{ɔ}$ , 3. sporadically documented tendency to shift the close  $\bar{e}$ ,  $\bar{o}$ —whether it originated through compensatory lengthening, contraction, or monophthongization—to the position of  $\bar{i}$ ,  $\bar{u}$ . 4. the Attic-Ionic (but not Euboean) change  $\bar{u} > \bar{u}$  (with its parallel short-vowel change  $u > \text{u}$ ).

As to the first of these changes, one may state—on the basis of documents quoted above on pp. 78sqq.—concerning the geographic spread and the time of accomplish-

<sup>318</sup> In contrast to the late monophthongization of these diphthongs, which was very likely occurring as late as after 350 B.C. in those Greek dialects in which it cannot be demonstrated prior to this date (as for the enumeration of these dialects see page 81).

ment of the monophthongization changes  $ei > \bar{e}$ ,  $ou > \bar{o}$  approximately the following: Before 450 B.C. the monophthongization of  $ei > \bar{e}$  and of  $ou > \bar{o}$  was very likely not accomplished in Arcadian, Cypriot, Lesbian, Elean, Laconian (with Messenian), Cretan, and Cyrenaean, that is to say in those dialects about which we have declared on p. 83 that we cannot take in them for granted the accomplishment of these processes as safely documented phenomena even as late as about 350 B.C.—though at least Lesbian and Laconian<sup>319</sup> are not altogether void of certain (even if rather inconvincing) early indications of the *ei*-monophthongization. On the other hand, there really exist about 450 B.C. safe documents demonstrating the accomplishment of at least one of the two above-mentioned monophthongizations in all Attic-Ionic dialects, as well as in Boeotian, West Locrian, Corinthian, Megaric, Argolic, and Theran; at the same time, we may, in our opinion, without a great risk of distorting the facts adhere to the working hypothesis that one can on principle take for granted with respect to all the above-enumerated dialects the accomplishment of both these monophthongizations prior to 450 B.C., no matter if only one of them may have been positively documented so far in some or other dialects before 450 B.C.<sup>320</sup>

Owing to the close geographical as well as ethnical connections partly within the North-West dialects, partly within those spoken in the East Aegean Doric area, one may, however, in our opinion, count also with the probability of the monophthongization of diphthongs *ei*, *ou* being accomplished about 450 B.C. even in those of the said dialects (Cyrene, again, excepting) in whose inscriptions we have not yet succeeded in finding sufficiently early documents of any of the two changes. Especially we seem to be pretty much on the safe side here when ascribing this to Phocian, for the oldest Phocian demonstration of the change  $ou > \bar{o}$  comes from the 2nd half of the 5th cent. B.C., which is not too far from our time limit 450 B.C.

Thus, there remain only two Greek dialects in which this problem is somewhat more complicated, i.e. Thessalian and Pamphylian. It is so not only because the first documents verifying these changes are here rather late ones, i.e. coming from the 1st half of the 4th cent. B.C. (in Pamphylian we have practically no preserved written document at all prior to the 4th cent. B.C.), but also since a certain doubtless isolation of these dialects from the rest of the Greek world hinders us in making any more definite conclusions as to the local chronology of the above-mentioned changes by means of analogies with other Greek dialects. Anyway, we have to keep in mind that, as to Thessalian, the possibility of offering specially the "indirect" proofs of the changes  $ei > \bar{e}$ ,  $ou > \bar{o}$  (based on the reproduction of the close  $\bar{e}$ ,  $\bar{o}$  with the signs *EI*, *OY*) is greatly handicapped by the circumstance that even after the Thessalian narrowing of the original mid  $\bar{e}$ ,  $\bar{o}$  to  $\bar{e}$ ,  $\bar{o}$  the archaic spelling *E*, *O* was

<sup>319</sup> Cf. page 81.

<sup>320</sup> This holds good also with respect to Boeotian, concerning which we were rather undecided in Chapter II, page 29, which of the possibilities quoted sub 2 we should give preference to.

found quite sufficient for the Thessalian reproduction of the only local, universal  $\bar{e}$ ,  $\bar{o}$  up to the close of the first half of the 4th cent. B.C., i.e. up to the time when the Ionic alphabet was adopted. Taking these difficulties into consideration, we again believe that one does not run the risk of any major mistake when assuming the accomplishment of the monophthongization  $ei > \bar{e}$ ,  $ou > \bar{o}$  even in Pamphylian and Thessalian before 450 B.C. Let us admit, of course, that this assumption is to be looked upon as a mere working hypothesis enabling us to survey jointly as early as by 450 B.C. all the "monophthongizing" dialects (i.e. all dialects in which we have in Chapter VI taken for granted the accomplishment of the monophthongization  $ei > \bar{e}$ ,  $ou > \bar{o}$  occurring prior to 350 B.C.), without being obliged to amplify their number by Pamphylian and Thessalian only later, that is to say in the 1st half of the 4th cent. B.C., and having, in fact, no positive proofs for this late chronology either.

Naturally, we must not fail to point out that in accord with what was stated on p. 125 this chronological fixing of the Thessalian monophthongization processes  $ei > \bar{e}$ ,  $ou > \bar{o}$  before 450 B.C. implies at the same time the assumption that prior to this date there must have occurred in Thessalian also the narrowing of the local, originally mid long universal  $\bar{e}$ ,  $\bar{o}$  to  $\bar{e}$ ,  $\bar{o}$ , for, as we have explained on the above-mentioned page, the Thessalian narrowing tendency  $\bar{e}/\bar{o} > \bar{e}/\bar{o}$  very likely preceded the local accomplishment of the monophthongization changes  $ei > \bar{e}$ ,  $oi > \bar{o}$ . (By adding this remark we feel squared up also with the 2nd item of the systemic changes occurring between 700 and 450 B.C., as we have enumerated them above on p. 141).

By the realization of the monophthongization changes  $ei > \bar{e}$ ,  $ou > \bar{o}$  in the territorial extent which we have tried to fix in our preceding discussion—let us remark here that in Thessaly the specifically Thessalian narrowing  $\bar{e} > \bar{e}$ ,  $\bar{o} > \bar{o}$  had actually occurred even before—there were only two dialects that experienced a significant transformation of their hitherto existing long-vowel system, namely Thessalian and Boeotian, while both these dialects had up till then belonged to the archaic type with five long monophthongs. Yet, either of the two dialects struck its own path. As a matter of fact, in Thessaly the number of the long-vowel phonemes did not change. There were five prior and five subsequent to this transformation. The difference, however, between the original systemic situation and the forthcoming one lay in just the circumstance that the up-till-then existing universal  $\bar{e}$ -,  $\bar{o}$ -sounds had at first shifted to the close  $\bar{e}$ -,  $\bar{o}$ -positions, and that in these positions they later strengthened their own functional capacity by directly absorbing the resulting monophthongal products of the two above-mentioned monophthongization changes. Thus the monophthongization of the diphthongs  $ei$ ,  $ou$  was not connected in Thessalian with the origin of any new phonemic couple. The situation in Boeotian, however, was quite contrary. In this dialect no preceding narrowing of the hitherto existing mid long  $\bar{e}$ ,  $\bar{o}$  had been accomplished, and the products of the two monophthongization changes entered the local system as an altogether new couple of phonemes of the close  $\bar{e}$ - and  $\bar{o}$ -quality, while the hitherto mid long  $\bar{e}$ ,  $\bar{o}$  was in

connection with it very likely ousted to the open position of  $\bar{e}$ ,  $\bar{o}$ . Thus the number of the Boeotian long-vowel phonemes got increased from five to seven. (As to the rest of the Greek dialects in which monophthongization of the diphthongs *ei*, *ou* was accomplished—i.e. all the dialects, in fact, belonging to the up-till-then existing systemic types with seven or maybe eight monophthongs—they merely responded to these monophthongization changes by an increase in the functional loading of the hitherto close  $\bar{e}$  and  $\bar{o}$ ).

All this means that monophthongization of the diphthongs *ei*, *ou*—and in Thessaly also the local narrowing  $\bar{e} > \bar{e}$ ,  $\bar{o} > \bar{o}$ —resulted only in one dialectal transposition from an already existing long-vowel systemic type to another likewise existing one (Boeotian joined the innovation type of seven monophthongs, having just given rise to a sixth and a seventh monophthong through the monophthongization of *ei*, *ou*), while in the second case, concerning namely Thessalian, a special modification of the old archaic system with five monophthongs got performed, the typical feature being here the shift of the  $\bar{e}$ - and  $\bar{o}$ - couple to the close position (so far we cannot answer the question whether maybe also the Thessalian  $\bar{a}$  had acquired an elevated position in articulation or not).

While taking into consideration that Thessalian and Boeotian underwent in the discussed period only the two changes we have dealt with in the foregoing paragraphs of *G*, we were fully justified to attempt an outline of their long-vowel system up to 450 B.C. after having discussed these two changes only. A quite complete picture, however, of the Greek systemic situation at this time limit we shall not get until we have subjected to a similar analysis also the two remaining changes which we have mentioned above. There is partly the pretty widely spread tendency to shift sooner or later the secondary close  $\bar{e}$ ,  $\bar{o}$  to the position of  $\bar{i}$ ,  $\bar{u}$  to be dealt with—no matter whether it originated through compensatory lengthening, contraction, or monophthongization—(see item 3 of the systemic changes enumerated on p. 141); and secondly we have to discuss the important Attic-Ionic (not Euboean) tendency to transform the long (and also the short)  $\bar{u}$  into the central  $\bar{u}$  (see item 4 in the list of the systemic changes given on p. 141).

The first of the just mentioned changes can be proved as existing before 450 B. C. in two dialects only, namely in Corinthian and in Argive, i. e. in Argolic of Argos—with that restriction, however, that the shift of  $\bar{e} > \bar{i}$  is documented only in Argos, whereas that of  $\bar{o} > \bar{u}$  in the Corinthian area only. Nevertheless, as we have already stated in Chapter IX (sub A 2d<sup>1</sup>x) we are not justified in evaluating the situation in both these dialects in quite the same way, and in the light of the articulation possibilities of the oral cavity, we think it most probable that the lack of Argive documentation of the change  $\bar{o} > \bar{u}$  may best be explained as a mere matter of chance, whereas no such explanation may be valid for Corinthian from the said point of view. Thus the only conclusion we can draw is that in Corinthian there had most probably existed only a partly simplified long-vowel system of six monophthongs by 450 B.C., where-

as for the Argolis of Argos the existence of a symmetrically balanced systemic type with five long monophthongs may be taken for highly probable about the same time limit. Whether the same could be applied to any extent to Argolic outside Argos we are so far not able to answer, and for this reason we shall restrict in our schemes the said system to Argos only.<sup>321</sup>

The separation of Corinthian and of the Argolic of Argos from the innovation type of seven long monophthongs did not represent an only dialectal loss for this systemic type within the space of time from 700 to 450 B.C.; this type was reduced much more seriously by the events in the Attic-Ionic area. This was caused by the shift of the quality  $\bar{u}$  to the central position of  $\bar{u}$ , which occurred—most likely due to some substratum impulse from Asia Minor—with greatest probability as early as in the 7th—6th cent. B.C. in Ionia, the Cyclades, and Attica. By the accomplishment of this change there arose for the first time in the Greek-speaking world a system with a central  $\bar{u}$ , that is to say with a phoneme which later became for a number of centuries a typical feature of the Hellenistic Greek. As to the Attic-Ionic dialectal area, it got split by this change into three systemic types: Euboea remained true to the type with seven monophthongs and the preserved  $\bar{u}$ , Attica together with Ionia and very likely partly also with the Cyclades (Naxos, Keos, and Amorgos excepting) separated from this type by the shift of its  $\bar{u}$  to  $\bar{u}$ , creating thus a kind of  $\bar{u}$ -variant of this type (at the same time we may admit also the possibility of the close  $\bar{o}$  making at least some partial approach towards  $\bar{u}$  prior to 450 B.C. already), and finally the Cycladean islands Naxos, Keos, and Amorgos rearranged its hitherto existing system of eight monophthongs quite analogically (even this system may have shifted its  $\bar{o}$  in the direction of  $\bar{u}$  by 450 B.C., and besides, it is not impossible that in some of these three islands at least the phoneme  $\bar{e}$  may have fused with  $\bar{e}$  already before this time limit, even though we cannot offer positive proofs thereof<sup>322</sup>). A feature of outstanding significance for the systemic interrelations within the Attic-Ionic dialectal area at that time was above all the fact that Euboean is now distinctly isolated from the rest of the Attic-Ionic world, and this isolation appears to be prospectively a long-lasting one.

When trying to sum up the total systemic outcome of all the four phonetic changes which we have just analyzed in our discussion under G, we have to state that within the period from 700 to 450 B.C. the dialect structure of the long-vowel systemic types got greatly changed, when compared with the systemic phase F. And this time it was even the basic (i.e. “*u*-shade”) innovation type with seven long monophthongs which was strongly affected. It was strengthened only by Boeotian, which adopted this

<sup>321</sup> As for the possibility that the above-said Argive usage found its assertion also in other Greek dialects prior to 450 B.C., we have to admit that this is not altogether excluded, yet, it must be pointed out that this situation cannot be demonstrated before the date in question safely enough.

<sup>322</sup> Cf. esp. Schw. 766 [Keos, V pars post.], where the independent  $\bar{e}$ -phoneme is still amply documented. See also Note 255.

structure having abandoned the archaic type of five monophthongs (even though this accession was a transient one, as we shall see under H, for the phonic content of the Boeotian close  $\bar{\epsilon}$ ,  $\bar{\delta}$  was comparatively small, comprising only those monophthongs that originated from the former *ei*, *ou*, and was incapable of retarding a further speedy shift of this  $\bar{\epsilon}$ ,  $\bar{\delta}$  to  $\bar{i}$ ,  $\bar{u}$ ), while, on the other hand, this systemic type lost Attic, the Ionic of Asia Minor—and all the Cycladean subdialects with seven monophthongs if such existed—and finally Corinthian and the Argolic of Argos.

At the same time this *u*-type with seven monophthongs could no more be called the most progressive long-vowel systemic formation, as it was formerly. On the one hand, the Attic-Ionic dialects, which separated from it, represented now a new significant innovation of the central  $\bar{u}$ , while, on the other hand, Corinthian and the Argolic of Argos struck out a new path towards acquiring once more the character of a three-grade long-vowel system. In this way it was in the meantime in Argos at least that a new, fully three-grade system originated, with a changed and more evenly distributed functional loading of the single long monophthongs, this concerning chiefly the phonemes  $\bar{i}$ ,  $\bar{u}$ , which had been but slightly loaded in the archaic three-grade system. At the same time this new three-grade system displayed one peculiar feature: this system, in contrast to the old three-grade system had already absorbed the diphthongs *ei* and *ou*—their liquidation having opened shortly before just one of the springs that contributed towards a substantial increase in the frequency of the phonemes  $\bar{i}$ ,  $\bar{u}$ .

And now a few words about the development of the other older systemic types between the time limits 700 and 450 B.C.: First of all, we have to point out once more that the archaic systemic type of five monophthongs—still preserving its full stock of “associated” short diphthongs—lost in comparison with phase F both Boeotian and Thessalian (the latter, as we know, created its own special systemic type with five monophthongs, shifting at the same time its  $\bar{\epsilon}$ - $\bar{\delta}$ -couple to the close position of  $\bar{\epsilon}$ ,  $\bar{\delta}$ ); next we have to remark that both the half-archaic Elean of six monophthongs and the Cycladean half-innovation type of Naxos, Keos, and Amorgos of eight monophthongs essentially still kept preserving their separate existence about 450 B.C. (the Cycladean type, of course, having undergone the change  $\bar{u} > \bar{u}$ , as well as further possible adaptations and restrictions we have alluded to before).

Thus, as we can see, the total number of the long-vowel systemic types got greatly increased within the period from 700 to 450 B.C. The four older types were joined by three quite new ones (Thessalian, Corinthian, and Attic-Ionic types), as well as by a type that outwardly remained identical with the archaic type of five monophthongs, but inwardly differed from it so much as to induce us to recognize it as an extra type (the Argolic of Argos). At the same time it is certainly worth noting that as many as four of the total number of eight systemic types comprised by 450 B.C. only one dialect (this concerns Thessalian, Corinthian, Argolic of Argos, and Elean), and that in one of these four cases the existence of the specific systemic type is probably restricted to a mere sub-dialect of one single community (the Argolic of Argos).

H) During the two remaining periods we shall discuss here up to 350 B.C.—one of them stretches from 450 to 400 B.C., while the other from 400 to 350 B.C.—the long-vowel systemic development proceeded in the Greek dialects for the most part along the paths that it struck out in the preceding phase of evolution. It is true that we might deal with both the just-mentioned periods simultaneously, yet we prefer not to do so, because especially the long-vowel system of Boeotian is progressing at this time rather speedily and we could not draw a satisfactory picture of this progress if we did not perform a partial section through the Greek dialectal situation about 400 B.C.

In the first of the two periods two changes were apparently accomplished that had a significant influence on further differentiation of the long-vowel system in Greek dialects, namely the Boeotian tendency towards narrowing the close  $\bar{e}$  (from *ei*) and  $\bar{o}$  (from *ou*) to  $\bar{i}$  and  $\bar{u}$ , and the Cycladean shift of the hitherto existing  $\bar{a}$  to  $\bar{e}$  (the latter being restricted to Naxos, Keos, and Amorgos only—provided, of course, that even in them this change was not accomplished in some places at least somewhat earlier).

The Boeotian tendency which we have just alluded to can, to be true, be safely demonstrated in the second half of the 5th cent. in the front vocalic row only; on the other hand, the change  $\bar{o}$  (from *ou*)  $>$   $\bar{u}$  is in Boeotian verified by documents as late as about 350 B.C.; this is namely the time when the Boeotian engravers having adopted the Ionic alphabet begin to reproduce the original Boeotian  $\bar{a}$  just with the spelling *OY*. The change  $\bar{o}$   $>$   $\bar{u}$ , however, was probably already by that time in Boeotian quite safely established and of a long standing. It is all the more probable because the interval between 426 B.C., which is the date of the first documentations of the Boeotian spelling *I* for the  $\bar{e}$  from *ei*, and between approximately 350 B.C. is far too long for a quite unbalanced long-vowel system with three phonemes on the front vocalic axis and four on the back axis to maintain its validity in the dialect. All this considered, just as we have under *G* put down side by side with the by 450 B.C. rather safely documented Boeotian change *ei*  $>$   $\bar{e}$  also the analogical change *ou*  $>$   $\bar{o}$  (i.e. just as we have there preferred -as a working hypothesis- the consistent four-grade diagram to depict the Boeotian systemic scheme referring to 450 B.C.), similarly we shall now put side by side with the documented Boeotian change  $\bar{e}$   $>$   $\bar{i}$  also the analogical change  $\bar{o}$   $>$   $\bar{u}$  and prefer here again the consistent three-grade diagram of p. 179 to depict the Boeotian scheme relating to the year 400 B.C.

By the accomplishment of these Boeotian changes the systemic type with seven long monophthongs and without the shift of  $\bar{u}$  to  $\bar{ü}$  experienced again further reduction in its geographical extent, while Boeotian got now associated—even if for a short time only—with the Argive radical innovation type with five long monophthongs, in which the frequency of its phonemic members was more evenly distributed and which had a comparatively small stock of “associated” short diphthongs as resources of further prospective enrichment of the local long-vowel system. Otherwise the

majority of the rest of the hitherto existing systemic types remained unaltered, the only thing that happened was the ultimate fuse of the Cycladean type with eight long monophthongs—after the finished accomplishment of the change  $\bar{\alpha} > \bar{\epsilon}$  in Naxos, Keos, and Amorgos—with the non-Euboean Attic-Ionic systemic type.

As to the question to what extent the former close  $\bar{o}$  could have occupied the position of  $\bar{u}$  in Attica, Ionia, and the Cyclades as early as about 400 B.C., we may just admit that this possibility cannot be altogether excluded; on the other hand, we, naturally, have to take into account also the fact that in the respective dialects there were only three phonemes in the back long-vowel row, and that they might have been so strongly influenced, as to articulation, by their parallel counterparts on the front long-vowel axis that in those dialects the terminal articulation position of  $\bar{u}$  may quite well have remained unoccupied even fairly long after it had been left vacant by the shift of  $\bar{u}$  to  $\bar{i}$ .

I) Finally we come to the last period of our investigation era. It extends from 400 B.C. to 350 B.C. and comprises two systemic changes, namely in Attic-Ionic (but not in Euboean) the probably definite shift of the close  $\bar{o}$  to the vacant position of  $\bar{u}$ , and the Boeotian monophthongization  $ai > \bar{\epsilon}$ , the latter resulting at the same time in the shift of the hitherto existing Boeotian mid  $\bar{e}$  to the close position of  $\bar{\epsilon}$ .

The former change—which, after all, may have occurred even before 400 B.C.—meant only a more equable articulation balancing of the long-vowel phonemes in Attic, Ionic, and the dialects of the Cyclades, not implying, however, any shift of a dialect from one systemic type to another.

Of greater import was the Boeotian change. It was the first monophthongization of the diphthong  $ai$  in the Greek world, and at the same time a foretoken of the phonetic change that the Hellenistic Koine, as the successor of Attic, was undergoing about 100 A.D., i.e. nearly half a millennium later. By accomplishing this change Boeotian separates now from the Argive systemic type, producing its own systemic formation of six monophthongs, which outwardly appears to resemble the Corinthian system, but the historical content of the single phonemes is in Boeotian entirely different, and above all, the stock of the 'associated' short diphthongs got here very considerably reduced, in this respect Boeotian actually turning out to be the most progressive among the Greek dialects of that time.

Having discussed both these changes we have reached the chronological boundary of 350 B.C., this date being the terminus of our investigation. After the middle of the 4th cent 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 single dialect area, from various interdialectal levelling tendencies.