

## IX

# THE PRINCIPAL PHONEMIC SHIFTS OCCURRING WITHIN THE LONG-VOWEL SYSTEM

In the preceding chapters of our work we have continually been conforming our discussion of the single long-vowel processes more or less to the vocalic shades of the resulting products. In this chapter we are going to abandon this principle in order to be able to treat as a whole the last group of the phonetic processes that are important for us from the systemic point of view. We can sum them up under the title: "the principal phonemic *shifts* occurring within the long-vowel system"; we have to point out that we shall subject here to a more detailed analysis only such shifts as have so far not been discussed at large in our work. Thus we shall no more deal systematically with e.g. either the Attic-Ionic change  $\bar{a} > \bar{\alpha} > \bar{\epsilon}$  and the Elean change  $\bar{\epsilon} > \bar{\alpha}$  or with the non-Euboean Attic-Ionic change  $\bar{u} > \bar{u}$ ; these three phonemic shifts will just be registered here in their proper places, for the sake of completeness, while as to details, we shall simply refer to chapters in which these questions were treated more systematically.

To obtain a plausible working method, we shall first divide all these shifts into marginal shifts (i.e. shifts that moved along the front or the back vocalic axis) and the centripetal shifts (here we shall include only a brief reference to the non-Euboean Attic-Ionic change  $\bar{u} > \bar{u}$ ), while the marginal shifts will be further subdivided into opening shifts (i.e. shifts towards the maximum of opening) and narrowing shifts (i.e. shifts towards the minimum of opening).

### A. Marginal shifts

#### 1. *Shifts of the opening kind*

##### a) $\bar{\epsilon} > \bar{\epsilon}$ , $\bar{o} > \bar{o}$

This opening tendency may be found in each case where new close  $\acute{\epsilon}$ -,  $\acute{o}$ - sounds originated by the compensatory lengthening,  $e+e$ ,  $o+o$  contraction or  $ei$ -,  $ou$ -monophthongization, so that they pushed the hitherto existing  $\bar{\epsilon}$ -,  $\bar{o}$ - sounds of mid

quality to the position of open  $\bar{\epsilon}$ ,  $\bar{\varrho}$ . Examples may be found in a great number of Greek dialects. In several cases, however, where the new close  $\bar{\epsilon}$ -,  $\bar{\varrho}$ - pair passed rather quickly into  $\bar{i}$ ,  $\bar{u}$  (see e.g. the Boeotian stages Nos. 2—3, reproduced according to Ruipérez on pp. 29sq. of this study), it may not be excluded that this opening tendency had not time enough to occur.

b)  $\bar{\epsilon} > \bar{\epsilon} > \bar{\omega}$

This is the Elean tendency described sub VII A.

c)  $\bar{\omega} > \bar{a}$  (when preceded by  $r$ ,  $e$ ,  $i$ )

This is the Attic reverse shift of  $\bar{\omega}$  in  $\bar{a}$  after  $r$ ,  $e$ ,  $i$  as discussed sub VII B.

## 2. Shifts of the narrowing kind

a)  $\bar{a} > \bar{\omega} > \bar{\epsilon}$

This is the well-known Ionic-Attic tendency described sub VII B. It is to be stressed once more that we must distinguish—at least in some Attic-Ionic dialects, e.g. in Attic and in the Cycladic of Naxos, Keos and Amorgos—two rather separate stages of this development, that of  $\bar{a} > \bar{\omega}$  (followed by the reverse shift  $r\bar{\omega}$ ,  $e\bar{\omega}$ ,  $i\bar{\omega} > r\bar{a}$ ,  $e\bar{a}$ ,  $i\bar{a}$  in Attic) and that of  $\bar{\omega} > \bar{\epsilon}$  (occurring especially in Naxos, Keos and Amorgos rather late).

b<sup>1</sup>)  $\bar{\epsilon} > \bar{\epsilon}$ ,  $\bar{\varrho} > \bar{\varrho}$

This narrowing tendency is a counterpart of A 1a and affected, as a rule, the open  $\bar{\epsilon}$ ,  $\bar{\varrho}$  in each case where the coexisting close  $\bar{\epsilon}$ -,  $\bar{\varrho}$ - sounds that originated either by a compensatory lengthening,  $e+e$ ,  $o+o$  contraction, or  $ei$ -,  $ou$ - monophthongization got fused later with  $\bar{i}$ -,  $\bar{u}$ - sounds (see A 2d<sup>1</sup><sub>x</sub>).

b<sup>2</sup>)  $\bar{\epsilon} > \bar{\epsilon}$

Here we have in mind a late Boeotian development, affecting about 250 B.C. the open  $\bar{\epsilon}$  arisen from  $ai$  by monophthongization (see our Note No. 40 to the Boeotian stage No. 5, reproduced on p. 31 of this monograph); owing to the later chronology of this change, however, we cannot take this phenomenon into consideration in our summarizing chapters. Cf. A 2c<sup>2</sup> and A 2d<sup>2</sup>.—See also the Attic stage No. 9 on p. 28.

c<sup>1</sup>)  $\bar{\epsilon} > \bar{\epsilon}$ ,  $\bar{\varrho} > \bar{\varrho}$

This is the well-known Thessalian tendency to narrow both the primary  $\bar{\epsilon}$ ,  $\bar{\omega}$ , and the secondary  $\bar{\epsilon}$ ,  $\bar{\varrho}$  which originated through the  $e+e$ ,  $o+o$  contraction into the close  $\bar{\epsilon}$ ,  $\bar{\varrho}$  (see e.g. the Thessalian spellings  $\delta\epsilon\acute{\iota} = \delta\acute{\eta}$ ,  $\mu\epsilon\acute{\iota} = \mu\acute{\eta}$ ,  $\delta\acute{\nu}\epsilon\theta\epsilon\iota\kappa\epsilon = \acute{\alpha}\nu\acute{\epsilon}\theta\eta\kappa\epsilon$ ) the same being the outcome of even the Thessalian  $ei$ -,  $ou$ - monophthongization. The said tendency took place on the back long-vowel axis doubtlessly and on the front axis probably before the beginning of the 4th cent. B.C.; we find a good proof of the former instance in Plato's *Kratyl*, where we read in p. 405c as follows: "Ἀπλοὺν γάρ φασι πάντες Θετταλοὶ τοῦτον τὸν θεόν [*Ἀπλοὺν* stands here instead of *Ἀπόλλωνος* ( $\nu\alpha$ )];<sup>228</sup> cf. also the frequent inscriptional "*Ἀπλοῦνος*, "*Ἀπλοῦνι*<sup>229</sup>.

<sup>228</sup> The Thessalian origin of the form *Κάμμων* GDI 373 [?, in epichoric alphabet], on the other hand, is not quite certain (cf. Meister, *GD* I 297).

<sup>229</sup> The spelling *OY* stands here for some vowel which was akin to the contemporary Attic

Otherwise, however, this change cannot be demonstrated until the Ionic alphabet had been introduced into Thessalian (i.e. towards the end of the first half of the 4th cent. B.C.); it was namely not until then that Thessalian inscriptions could use under the Attic-Ionic influence the spelling *EI* in the monophthongal function of the close  $\bar{e}$ , and *OY* in the function of  $\bar{o}$  (cf. e.g. the already quoted  $\acute{\alpha}\nu\acute{\epsilon}\theta\eta\kappa\epsilon = \acute{\alpha}\nu\acute{\epsilon}\theta\eta\kappa\epsilon$ , or the frequent  $\acute{\epsilon}\delta\omicron\upsilon\kappa\epsilon = \acute{\epsilon}\delta\omega\kappa\epsilon$  in the Thessalian inscriptions written in the Ionic alphabet). The real absolute age of this change is, of course, hard to determine; in any case, we do not consider the change to be so late as to feel justified to take an odd Thessalian occurrence of the spelling *H, Ω*—occurring as a graphical substitute of the primary  $\bar{e}$ ,  $\bar{o}$  (and of the  $\bar{e}$ ,  $\bar{o}$  originated from *e+e, o+o*) in the transition period of the introduction of the Ionic alphabet (especially in Pharsalos)—for a dying away manifestation of this change, and to believe that the *ei-* and *ou-* monophthongization was the older process of the two. The latter view, which we are going to criticize, is endorsed to a certain extent by Lasso de la Vega, *Emérita* 24 (1956), 273, who wanted to prove that in each of the Greek dialects there existed at some time in its history the four-grade long-vowel system, and thus he holds the above-alluded to Pharsalian expressions  $\acute{\alpha}\rho\chi\acute{\omicron}\nu\tau\omega\upsilon\upsilon$  Schw. 566,1<sub>2</sub> [Pharsalos, IV],  $\acute{\alpha}\nu\acute{\epsilon}\theta\eta\kappa\epsilon$  GDI 329 A [Pharsalos, IV?] and GDI 329 B [Pharsalos, IV?],  $\Lambda\epsilon\omega\nu\acute{\iota}\delta\alpha\varsigma$  GDI 329B [Pharsalos, IV?], supposed to conceal in their spelling *H, Ω* the open  $\bar{e}$ ,  $\bar{o}$ ,<sup>290</sup> to be certain remnants of this condition.

In our opinion, however, as we have already said, these documents are not convincing enough. Thus, first of all, the proper name  $\Lambda\epsilon\omega\nu\acute{\iota}\delta\alpha\varsigma$  may indicate a person of non-Thessalian origin. No less problematic is the attempt to quote in this connection the rather documented form  $\acute{\alpha}\nu\acute{\epsilon}\theta\eta\kappa\epsilon$ , all the more so, since it was used there in two dedicatory inscriptions, containing only three or four words (in one of these inscriptions we find also the above-mentioned proper name  $\Lambda\epsilon\omega\nu\acute{\iota}\delta\alpha\varsigma$ ): the expression  $\acute{\alpha}\nu\acute{\epsilon}\theta\eta\kappa\epsilon$  “(he) dedicated” bears here the stamp of a dedicatory technical term,<sup>291</sup> and its spelling could have been, specially in the transition period of introduction of the Ionic alphabet, simply adopted from other dialects, since most of them knew at that time the graphic form  $\acute{\alpha}\nu\acute{\epsilon}\theta\eta\kappa\epsilon$  already.

The only L. de la Vega’s document that could be ascribed greater weight is the expression  $\acute{\alpha}\rho\chi\acute{\omicron}\nu\tau\omega\upsilon\upsilon$ , for here we meet with the sign  $\Omega$  used for the primary  $\bar{o}$  in the very inscription, in which otherwise we encounter three times the sign *O* representing

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substitute for secondary  $\bar{o}$ , no matter if the latter had still the quality of  $\bar{o}$  or already that of  $\bar{u}$  in those times.

<sup>290</sup> Lasso de la Vega’s argumentation does not make it quite clear what the actual historical phonic character of his assumed open  $\bar{e}$ ,  $\bar{o}$  was—whether it was only the primary  $\bar{e}$ ,  $\bar{o}$  (all examples quoted by Vega are of this type), or also the secondary  $\bar{e}$ ,  $\bar{o}$ , produced by equivocalic contraction. It appears, however, probable that Vega favoured the latter possibility.

<sup>291</sup>  $\acute{\alpha}\nu\acute{\epsilon}\theta\eta\kappa\epsilon$  is attested even in some other inscriptions written in the epichoric or transitional Thessalian alphabet.

long  $\bar{o}$  (in  $\Sigma\bar{o}\sigma[\acute{\alpha}\nu]\delta\rho\bar{o}$  Ἀσάνδρ $\bar{o}$  l.c.<sub>2-3</sub>), viz. twice a secondary  $\bar{o}$  arisen from the contracted  $o+o$ , and once that arisen through the contraction of  $\acute{\alpha}+\bar{o}$ , the resultant phonic quality of the latter process being as a rule the same as that of the primary  $\bar{o}$ .<sup>292</sup> Of course, just the employment of the sign  $O$  even in  $\Sigma\bar{o}\sigma$ - (traced back to the original \**sawo* + /i/s-] alongside with  $\Omega$  in  $\acute{\alpha}\rho\chi\acute{o}\nu\tau\omega\nu$  seems to indicate that this double spelling is more likely an expression of the engraver's perplexity, springing from the unsettled condition at the time of the introduction of the Ionic alphabet than an indication of a phonetic change, just proceeding.

If we stress on the top it that probably neither in the forms Ἀφιδονῆτω, Μανιχῆω Schw. 573,1 [Skotussa, IV in.] does the sign  $\Omega$ , corresponding here with the older  $o+o$  prove for certain the open pronunciation of the vowel  $\bar{o}$ ,<sup>293</sup> we have to consider L. de la Vega's belief in the existence of a former Thessalian four-grade system as a hypothetical possibility, yet by no means provable from the preserved documents.

Let us proceed in our argumentation by saying that the most remarkable thing about the said Thessalian change is the fact that the close Thessalian  $\bar{\epsilon}$ ,  $\bar{o}$  arisen from *ei*, *ou* did not proceed changing into  $\bar{i}$ ,  $\bar{u}$ , a tendency which was rather pronounced (even in pretty early stages) in some other Greek dialects.<sup>294</sup> The explanation is, however, at hand: If this change had actually occurred in Thessalian, the outcome of it must have been (provided, of course, that the changes  $\bar{e} > \bar{\epsilon}$  and  $\bar{o} > \bar{o}$  were really older than the monophthongization  $ei > \bar{\epsilon}$ ,  $ou > \bar{o}$ ), along with the close  $\bar{\epsilon}$ ,  $\bar{o}$  resulting from monophthongization, the transformation into  $\bar{i}$ ,  $\bar{u}$  also of the  $\bar{\epsilon}$ ,  $\bar{o}$  which—being quite identical with the former—arose through the narrowing of the original mid long  $\bar{e}$ ,  $\bar{o}$ . If it had been so, it would have left in Thessalian only three long vowels,  $\bar{a}$ ,  $\bar{i}$ ,  $\bar{u}$ , and such reduction of the long-vowel system without any Thessalian tendency to produce another  $\bar{e}$ ,  $\bar{o}$  would have been felt to be a too radical process.

The just stressed peculiarity of Thessalian supplies us, therefore, at the same time, also with an indirect argument in favour of the chronological hypothesis which we are just expanding, viz. that the narrowing process  $\bar{e} > \bar{\epsilon}$ ,  $\bar{o} > \bar{o}$  (concerning both the primary  $\bar{e}$ ,  $\bar{o}$  and those arisen from  $e+e$ ,  $o+o$ ) was prior to the Thessalian change  $ei > \bar{\epsilon}$ ,  $ou > \bar{o}$ .<sup>295</sup> If *ei* and *ou* had namely been monophthongized before this process of narrowing, it appears to be very probable that  $\bar{\epsilon}$  and  $\bar{o}$  as the resulting products of this monophthongization would hardly ever have fused with the new  $\bar{\epsilon}$ ,  $\bar{o}$ , arising from the primary  $\bar{e}$ ,  $\bar{o}$  (as well as from the  $\bar{\epsilon}$ ,  $\bar{o}$  which originated from  $e+e$ ,  $o+o$ ), but it would have more likely been shifted—just under the pressure of this new  $\bar{\epsilon}$ ,  $\bar{o}$ —towards  $\bar{i}$ ,  $\bar{u}$ ; it is all the more probable, since the functional taxation of the

<sup>292</sup> Exceptionally we come across also an  $\bar{a}$  in this case (see Schwyzer, *GG* I 250).

<sup>293</sup> See Thumb—Scherer 57.

<sup>294</sup> See pp. 125sqq.

<sup>295</sup> In spite of Antkowski's theory alluded to in Note 30, we take in Thessalian both the monophthongization processes for simultaneous; there is namely no linguistic evidence which would indicate the existence of a chronological difference between them.

phonemes  $\bar{i}$ ,  $\bar{u}$ , comprising both the original  $\bar{i}$ ,  $\bar{u}$ , and the  $\bar{i}$ ,  $\bar{u}$  that would arise from  $ei$ ,  $ou$ , would have been upon the whole well balanced in relation to the functional taxation of the neighbouring  $\bar{e}$ ,  $\bar{o}$ , comprising in this case only the primary  $\bar{e}$ ,  $\bar{o}$  and the  $\bar{e}$ ,  $\bar{o}$  originating from  $e+e$ ,  $o+o$ . In reality, however, the Thessalian phonemes  $\bar{i}$ ,  $\bar{u}$  suffered from very small functional taxation, their historical phonic provenience remaining restricted merely to the original  $\bar{i}$ ,  $\bar{u}$ , whereas the Thessalian  $\bar{e}$ ,  $\bar{o}$  was, on the other hand, rather strongly taxed from the functional point of view, comprising not only the primary  $\bar{e}$ ,  $\bar{o}$  and the  $\bar{e}$ ,  $\bar{o}$  arisen from  $e+e$ ,  $o+o$ , but also the monophthongic substitute for the former  $ei$ ,  $ou$ . This demonstrated Thessalian condition with its functional balance considerably upset points most probably to the assumption that the monophthongs arisen through the liquidation of the diphthongs  $ei$ ,  $ou$ , being surely in their quality very akin to—if not identical with—the close  $\bar{e}$ ,  $\bar{o}$ , could not at the time of their birth but fuse with the already existing and finished  $\bar{e}$ ,  $\bar{o}$ , which comprised both the historical primary  $\bar{e}$ ,  $\bar{o}$  as well as the  $\bar{e}$ ,  $\bar{o}$  that originated from  $e+e$ ,  $o+o$ .<sup>296</sup>

c<sup>2</sup>)  $\bar{e} > \bar{e}$

Here we have in mind the Boeotian narrowing  $\bar{e} > \bar{e}$ , called forth in the first half of the 4th cent. B.C. by the origination of the Boeotian open  $\bar{e}$  from  $ai$  (see above VII C); cf. *Κράτεις* = *Κράτης* IG VII 2427<sub>21</sub> [Thebes, 400—350] beside *Ἀρόστηχμο[ς]* = *Ἀρόσταιχμος* l.c.<sub>11</sub>. In contrast to A 2c<sup>1</sup>, this shifting occurred in direct connection with the just mentioned monophthongization process and affected only the front long-vowel axis, which witnessed later within the period from about 350 to 150 B.C. several further successive narrowing changes, i.e. that of  $\bar{e} > \bar{e}$  (see above sub A 2b<sup>2</sup>) and that of  $\bar{e} > \bar{i}$  (see below sub A 2d<sup>2</sup>). On the other hand, the Thessalian narrowing described sub A 2c<sup>1</sup> had nothing whatsoever in common with any monophthongization of diphthongs, yes, even the possibility cannot be excluded that this Thessalian narrowing had a quite spontaneous character, being possibly caused by some external influences, e.g. by a substratum. Cf. A 2d<sup>2</sup>.—See also the Attic stage No. 8 on p. 28.

d<sup>1</sup>)  $\bar{e} > \bar{i}$ ,  $\bar{o} > \bar{u}$

This is a very widely occurring Greek narrowing tendency, for which we can find examples in a number of Greek dialects. According to the historical provenience of the close  $\bar{e}$ -,  $\bar{o}$ - sounds in question, we may discern two types of the dialects concerned.

a) The first group comprises several Greek dialects whose long-vowel system had been markedly four-staged as early as either in the period of the first compensatory lengthening, or at least in that of the operation of the  $e+e$ ,  $o+o$  contraction. In these dialects it was both the  $\bar{e}$ -,  $\bar{o}$ - pair formed by compensatory lengthenings or  $e+e$ ,  $\bar{o}+\bar{o}$  contraction, and the  $\bar{e}$ -,  $\bar{o}$ - pair resulting from the  $ei$ -,  $ou$ - monophthongization

<sup>296</sup> For details of the Thessalian long-vowel development as well as concerning the relative chronology of the Thessalian change  $\bar{e} > \bar{e}$ .  $\bar{o} > \bar{o}$ , see Bartoněk. *Sborník A* 10, pp. 167—179.

that underwent the said narrowing tendency of  $\bar{\epsilon}$ ,  $\bar{\delta}$  into  $\bar{i}$ ,  $\bar{u}$ . Before 350 B.C., quite reliable evidence for this phenomenon is found, as far as the change  $\bar{\epsilon} > \bar{i}$  is concerned, in Argolic (only in Argos; cf. *τελίτῶ ἀφαιρισθῆναι* Schw. 83 A<sub>13</sub>, B<sub>6</sub> [Argos, ca. 450]), and with regard to the change  $\bar{\delta} > \bar{u}$ , in Corinthian (cf. *Ἀχιλλεοῦς* = *Ἀχιλλεύς* Schw. 121, 4 [Corinth, VII?]) and also in Attic (cf. the above-said fact that about 350 B.C. Boeotian borrowed the graphic spelling OY for its  $\bar{u}$  apparently through Attic) and in Ionic (e.g. *Ἐὐρυσθέμευος* = *Ἐὐρυσθέμευς* < -εος GDI 5711<sub>6</sub> [Samos, V?]); on the other hand, the Pamphylian form *ἀργύρου* = *ἀργόρου* Schw. 686a 4<sub>5</sub> [Aspendos, II?], as well as the isolated Delphian *ποιούσα* = *ποιύσα* [cf. Rüschi, 139] testify only to a considerably later replacement of  $\bar{\delta}$  by  $\bar{u}$ .

In consequence, there is no doubt that at least the four-stage long-vowel systems of the Argolic of Argos, Corinthian, Attic, and Ionic were somewhat affected by this phenomenon—even though owing to the absence of records testifying to a complete narrowing before 350 B.C. of both the close  $\bar{\epsilon}$  and the close  $\bar{\delta}$  in each of these dialects, it cannot be directly proved that a complete transformation of the four-stage long-vowel system into a three-stage one had taken place in them as early as about 350 B.C. In any case, there existed one significant difference between the situation in Attic-Ionic and in Corinthian, on the one hand, and in the Argive subdialect of Argolic, on the other. The difference may best be explained when comparing Corinthian with the Argolic of Argos.

In Corinthian the local form *Ἀχιλλεοῦς*, documented as early as in the 7th cent. B.C. and being equal to the Attic *Ἀχιλλεύς*, betrays a very early accomplishment of the change *ou* >  $\bar{\delta}$  >  $\bar{u}$ , and makes probable also the transformation into  $\bar{u}$  of the close  $\bar{\delta}$  arisen through compensatory lengthening and equivocalic contraction; that even this second conclusion is entitled to claim acknowledgement becomes rather clear if we confront the quoted expression *Ἀχιλλεοῦς* (with OY for *u*) with the fact that in Corinthian the same spelling OY was employed in archaic inscriptions already even for the outcome of the contraction *o + o* (cf. e.g. *ἘΒνύλλον* = *Ἐεβ*· AJA 23, 361sq. [VI extr. aut V in.]);<sup>296a</sup> on the other hand, we find no trace whatsoever in Corinthian of the parallel change  $\bar{\epsilon} > \bar{i}$ . As to Argolic of Argos, in contrast to it, the documents *τελίτῶ* and *ἀφαιρισθῆναι* [ca. 450 B.C.] positively verify only the local accomplishment of the change  $\bar{\epsilon} > \bar{i}$ , whereas here again demonstrations of the analogical change  $\bar{\delta} > \bar{u}$  are missing. Now, strange enough, it is just this, so to say, contrasting conformity of Corinthian and Argolic of Argos that forces us not to evaluate the situation in both these dialects in quite the same way.

In Corinthian the change  $\bar{\delta} > \bar{u}$  reduced namely 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 rather well with the

<sup>296a</sup> Quoted according to Schw. (*Dialectorum Graecarum exempla...*), ad 123, 11; cf. also Thumb—Scherer 129.

articulation possibilities of the oral cavity. It was likely just a question of time before symmetry would be restored in this system, but taking into account the fact that the conditions were quite favourable as to the said articulation possibilities we should be justified in admitting the accomplishment of the change  $\bar{e} < \bar{i}$  only on the basis of convincing linguistic documentation, and such a 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 of six monophthongs 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 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 articulation possibilities 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—in spite of our reservation on page 126—both the discussed changes, i.e.  $\bar{e} > \bar{i}$  as well as  $\bar{o} > \bar{u}$ , and that the fact that we are short of documentation of the second change is a mere matter of chance. This would, of course, imply the necessity of assuming in the Argolic of Argos as early as about 450 B.C.—or at least shortly after—the existence of a symmetrically balanced systemic type with five long monophthongs.

As to the Attic-Ionic dialects, the situation was practically the same as in Corinthian: even there the only positive conclusion we can draw from the above-adduced arguments is that the older Attic-Ionic close  $\bar{o}$  shifted probably to  $\bar{u}$  before 350 B.C., without implying that the parallel shift of  $\bar{e}$  to  $\bar{i}$  must have occurred prior to this time limit. We must only add that in Attic-Ionic this disproportion was surely supported not only by the above-said articulation conditions in the oral cavity, but also by the fact that the position of  $\bar{u}$  had been in non-Euboean Attic-Ionic unoccupied since the accomplishment of the centripetal shift  $\bar{u} > \bar{u}$ .

A quite precise date of the origination of this new Attic  $\bar{u}$  cannot be fixed. The spelling *OY* alone, which began to be used sporadically as early as from the end of the 6th cent. B.C. in the Attic-Ionic area to reproduce also the monophthong that resulted from the compensatory lengthening of the phone *o* or from the contraction of *o+o*, does not betray about the quality of the sound underlying this sign anything more except the assumption that at the time when this spelling began to assume the said function,<sup>297</sup> the then existing substitute for the proto-Greek diphthong *ou*

<sup>297</sup> See e.g.  $\chi\omicron\upsilon\varsigma$  Schw. 725, [Miletos, paullo ante 500] beside  $\chi\delta\nu$  Schw. 726<sub>21</sub>, [Miletos, 450]; cf. also Attic  $\Lambda\epsilon\rho\omicron\upsilon\varsigma$ , already quoted on p. 118.

already formed with the said “compensatory” or “contracted” monophthong one single phoneme, without directly implying whether the phoneme had still the quality  $\bar{o}$ , or that of  $\bar{u}$  already. Yes, even the fact that in Boeotian the adoption of the “Ionic” alphabet (which occurred shortly before 350 B.C. through Attic mediation) introduced the use of the spelling *OY* also for the reproduction of the original  $\bar{u}$ <sup>298</sup> cannot be taken for a quite safe proof of the  $\bar{u}$ -pronunciation of the phoneme then underlying the Attic spelling *OY*. The inhabitants of Boeotia would namely have likely adopted the “Ionic” spelling *OY* for the reproduction of their old  $\bar{u}$ —which was going to retain its *u*-pronunciation in Boeotia even prospectively—also in the case if this *OY* had at that time still maintained in Attica its value of the closed  $\bar{o}$ : even so the “Ionic” spelling *OY* would have been more suitable to express the pronunciation of the Boeotian  $\bar{u}$  than the “Ionic” spelling *Y*, which had probably been identified in Attica with the value  $\bar{u}$  for quite a long time and thus was not suitable to perform in Boeotia after the local accomplishment of the “Ionic” orthographic reform the reproduction of the old  $\bar{u}$ .

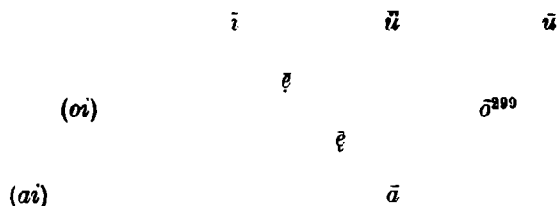
Nevertheless, what we have just said about Boeotian indicates only that the Boeotian adoption of the Attic-Ionic spelling *OY* for the old local  $\bar{u}$  does not supply us with an absolutely safe terminus ante quem for the final accomplishment of the Attic-Ionic change  $\bar{o} > \bar{u}$ . On the contrary, there still exists the possibility that the change actually may have occurred, in some of the Attic-Ionic regions at least, prior to the Boeotian adoption of the “Ionic” orthography. We have already said that in Ionia, Attica, and the Cyclades in any case the position of the long  $\bar{u}$  was free from the 7th, or at the latest, the 6th cent. B.C. (since the local realization of the change  $\bar{u} > \bar{u}$ ), and the occurrence of the two  $\bar{o}$ -phonemes,  $\bar{o}$  and  $\bar{o}$ , being comparatively dense in the back row, it is quite probable that the close  $\bar{o}$  began to display the tendency towards shifting to  $\bar{u}$  immediately after the accomplishment of the change  $\bar{u} > \bar{u}$ ; thus it is possible after all that even the process of accomplishing the shift  $\bar{o}$  to  $\bar{u}$  may have come to an end in some of these areas at least even rather long before the 4th cent. B.C., especially if some westward spread of the change  $\bar{u} > \bar{u}$  (coming from Ionia) were taken for granted. On the other hand, however, we have also to take into account the circumstance that there existed in the respective dialects on the back long-vowel axis after the accomplishment of the change  $\bar{u} > \bar{u}$  only two non-*a* phonemes ( $\bar{o}$ ,  $\bar{o}$ ) and that their articulation may have been affected by their front-axis counterparts ( $\bar{e}$ ,  $\bar{e}$ ) to such an extent that the definite occupation of the terminal articulation position of  $\bar{u}$  may have taken place quite a long time after its evacuation through the change  $\bar{u} > \bar{u}$ .

Thus there existed in Attica, Ionia, and the Cyclades—maybe already before 400 B.C., but some 50 years later more certainly—a new system, that was

<sup>298</sup> See e.g. *Πυθίων* = *Πυθίων* Schw. 467, [Thebes, 355 -346], *χουστό* = *χουστό* l.c.<sub>9</sub> ... beside *χουστό* l.c.<sub>12</sub> and *ἀργυρίο* l.c.<sub>10</sub>.



comparatively well adapted to the physiological-articulation capacity of the oral cavity:



In contrast to it, Euboea kept preserving its former system (see page 119) because the Euboean closed  $\bar{o}$ , even though it was since the end of 5th cent. B.C. reproduced consistently with the spelling *OY*, obviously stayed on in the position of  $\bar{o}$ , not changing into  $\bar{u}$ . This may be seen from the fact that the graphic difference between *OY* (used for the original *ou* as well as for the monophthong produced by the compensatory lengthening of the phone *o* or by the contraction *o+o*) and between *Y* (used for the original  $\bar{u}$ ) was quite consistently observed also in Euboean inscriptions of the coming centuries. Even when in the course of time this scheme likely succumbed under the influence of the Hellenistic Koine to various other changes, it is possible that in some Euboean regions at least the speakers of the pure Euboean dialect still kept refusing to adopt the central  $\bar{u}$  for a fairly long period, perhaps to the very end of the existence of this dialect as such, if not to our times.<sup>300</sup>

β) The second type of the said narrowing tendency of  $\bar{e} > \bar{i}$ ,  $\bar{o} > \bar{u}$  is represented by Boeotian, where a transient four-stage long-vowel system had originated after the accomplishment of the local *ei-*, *ou-* monophthongization processes in the 5th cent. B.C. This means that the Boeotian close  $\bar{e}$ -,  $\bar{o}$ - phonemes that were narrowed into  $\bar{i}$ ,  $\bar{u}$  partly about, partly soon after 400 B.C. (see Nos. 2—3 on p. 293qq.) contained only the  $\bar{e}$ -,  $\bar{o}$ - sounds that had arisen from the just-said monophthongizations, whereas the Boeotian primary  $\bar{e}$ ,  $\bar{o}$  as well as the local secondary  $\bar{e}$ -,  $\bar{o}$ - sounds that originated through the compensatory lengthening or the *e+e*, *o+o* contraction were firmly united in the originally single and universal Boeotian  $\bar{e}$ -,  $\bar{o}$ - phoneme couple and had been clearly separated from the always closer results of the *ei-*, *ou-* monophthongization down to the Hellenistic Era. As for the examples, see Boeotian stages 2—5 reproduced according to Ruipérez on pp. 293qq. See also A 1a and 2d<sup>2</sup>.

d<sup>2</sup>)  $\bar{e} > \bar{i}$

Here we have in mind again a specific Boeotian process, which affected about 250 B.C. the then-existing Boeotian close  $\bar{e}$ , this position having been assumed since the times of the accomplishment of the Boeotian *ai-* monophthongization process by the local substitute for the originally universal Boeotian  $\bar{e}$ - sound of mid quality

<sup>299</sup> Ruipérez, o.c. 74. on the other hand, prefers the open quality  $\bar{e}$  even here--which is for physiological-articulation reasons improbable.

<sup>300</sup> See pp. 113.

(see above sub A2c<sup>2</sup>). This process (see the Boeotian stage No. 5, as reproduced on p. 31 of this study) must be left out of consideration in our summarizing chapters and had, of course, nothing common with the Boeotian vocalic shifts  $\bar{e} > \bar{i}$ ,  $\bar{o} > \bar{u}$ , which affected the close  $\bar{e}$ -,  $\bar{o}$ -vowels arisen from *ei*, *ou* (see above sub A 2d<sup>1β</sup>) and were apparently in progress as early as before the beginning of the 4th cent. B.C. — See also the Attic stage No. 9 on p. 28:

### **B. Centripetal shifts**

Here only one long-vowel shift is to be mentioned, i.e. the Attic-Ionic (but non-Euboean) vocalic change  $\bar{u} > \bar{i}$  as described above sub VIII A.