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PROBLEM OF DOUBLE \bar{e} -, \bar{o} - SOUNDS IN ANCIENT
GREEK DIALECTS

In the historical development of Old Greek we can observe at different times the process of origination of the so-called secondary \bar{e} , \bar{o} . The most important sources of this phenomenon must be considered the different types of the compensatory lengthening and the equivocalic contraction of vowels.¹ It was only in less than a half of ancient Greek dialects, however, that this \bar{e} , \bar{o} consequently fused with the primary \bar{e} , \bar{o} , in numerous dialects there namely appeared another product of these changes — or at least of some of them —, i. e. a new long \bar{e} - or \bar{o} - phoneme, whose characteristic feature was a close quality.

The first case may be demonstrated² with maximum consistency in Arcadian (it may be assumed also in Cyprian), in Lesbian, Elean, and Laconian, and also in Thessalian and Boeotian. In all these dialects (exc. Cyprus) both the primary²ⁱ and the newly arising secondary \bar{e} , \bar{o} were reproduced either with the signs \bar{E} , \bar{O} (such was the case chiefly in the archaic local alphabets of all these dialects), or with the signs H , Ω (these were current symbols employed in all the above-mentioned dialects [except Boeotian and Thessalian] after the adoption of the Ionic alphabet), or finally with the signs EI , OY (Ionic spelling from Thessaly) or EI , Ω (Ionic spelling from Boeotia); in contrast to the Thessalian consistently „close“ EI , OY we therefore encounter in Boeotian with a certain assymetry.

In the other Greek dialects we meet with a more or less regular differentiation of the primary and the secondary \bar{e} and \bar{o} sounds. For the most part the primary \bar{e} , \bar{o} is reproduced by the letters H , Ω and, as to its quality, is considered to be open, while for the graphic reproduction of secondary \bar{e} , \bar{o} the signs EI , OY ^{2b} are generally used, the quality being looked upon as close. This way of graphic differentiation is not, however, universally valid in these dialects, whether as to time or as to place. From the chronological point of view, the said graphic differentiation may be observed only in those areas where the Ionic alphabet was current already, and as to place, this differentiation does not assert itself everywhere with the same consistency. Anyway, in this respect only some minor deviations may be explained by the unsettled graphic practice, while others are phenomena of phonetical character. It is true, all the dialects of this type distinguished double \bar{e} , \bar{o} on principle, but yet, they are not always in accord as to whether the products of the contraction of $e + e$, $o + o$ and of the compensatory lengthening of e , o resulted everywhere regularly into \bar{e} , \bar{o} that differed from the primary \bar{e} , \bar{o} in quality. In some of the dialects namely the

open \bar{e} , \bar{o} to a certain extent included also the secondary \bar{e} , \bar{o} which was the product of $e + e$, $o + o$, or of the lengthening of e , o .

The primary open \bar{e} , \bar{o} (Ionic spelling H , Ω) and the secondary close \bar{e} , \bar{o} ($\cong EI$, OY)^{2c} appear regularly only in Ionic, Attic, the North-West dialects, Megarian, and Corinthian, whereas in the remaining Greek dialects, distinguishing the double \bar{e} , \bar{o} , i. e. in Argolic, East Aegean Doric, Pamphylian, and also in Crete the situation was more complicated.

In East Aegean Doric (excepting Cyrene) and in Pamphylian the open quality is usually³ a typical feature not only of the primary \bar{e} , \bar{o} , but also of the secondary, as far as it originated from either the first (type $*esmi > \bar{e}mi$), or from the second (type $*tons > \bar{t}\bar{o}s$) compensatory lengthening,⁴ while the close quality must be ascribed the secondary \bar{e} , \bar{o} that was the product of contraction or of the third compensatory lengthening (type $*ksenwos > ks\bar{e}nos$), provided the latter took place at all. In Cyrenaean the indications of differentiation are so scarce that we feel hardly justified to include this dialect among those with the double \bar{e} , \bar{o} .⁵ As to Crete, the distribution which holds good in East Aegean Doric can be demonstrated here only with reference to the vowel \bar{e} , and only in the oldest Central Cretan inscriptions from the 7/6th cent. and then again in the 3rd cent. B. C. The interval knows only one \bar{e} and also only one \bar{o} and the reoccurring differentiation between H and E in the 3rd cent. B. C. is to be most likely ascribed to the increasing influence of the Attic Koine with double \bar{e} , \bar{o} , this being all the more true since the material comes mostly from East Crete.⁶

Rather complicated was also the situation in Argolic. The East of Argolis (especially Epidaurus and Troezen) displayed in this matter the same tendency as East Aegean Doric, i. e. adhered to a comparatively consistent differentiation between the primary \bar{e} , \bar{o} and the secondary \bar{e} , \bar{o} originating by the two older types of the compensatory lengthening, on the one hand ("open spelling" H , Ω), and the secondary \bar{e} , \bar{o} originating by the equivocalic contraction, on the other hand (close spelling EI , OY) — as for the third lengthening, this process is not preserved in East Argolis at all. As far as West Argolis is concerned, an analogical distribution of the double \bar{e} , \bar{o} can be demonstrated, with the only difference that the open \bar{e} , \bar{o} occurs at least in Argos⁷ also as a product of the third compensatory lengthening, while the close \bar{e} , \bar{o} ⁸ remains restricted to the \bar{e} , \bar{o} originating by the contraction of $e + e$, $o + o$.⁹

The drawback of all the hitherto made attempts to find an interpretation of these complicated problems lies, according to our opinion, in the fact that the authors have not paid adequate attention to the picture of the whole structure of the long-vowel system in each of the Greek dialects at the very moment when the secondary \bar{e} , \bar{o} was originating in them from its respective source.¹⁰ Especially they failed to take into account whether the system of the long vowels was a three-grade or a four-grade one at that time. In our work, whose object is to make use of the differences in quality between the \bar{e} - or \bar{o} - results of the compensatory lengthening, as well as of the equivocalic contraction, first of all for the classification of the ancient Greek dialects, we shall try to adhere to this standpoint with consistency, our starting point being the scheme of the products of the above-mentioned phonic changes, as it is presented on Table 1.

From the Table we can derive the following facts as to the single types of the respective phonic changes:

1) The consonantal groups that in Greek are liable to be affected by the 1st^{10a} compensatory lengthening were simplified in all Greek dialects by effecting a compensatory lengthening of the preceding vowel, with the exception of Lesbian and Thes-

salian. In the latter two dialects we find instead of the lengthened vowel a geminated consonant, an occurrence which, to be sure, belongs to the chapter dealing with the consonantal system.^{10b} In the other Greek dialects short *e*, *o* was transformed by compensatory lengthening into long secondary \bar{e} , \bar{o} , which fused — immediately or pretty soon — in some of the dialects with primary \bar{e} , \bar{o} (Arcadian-Cyprian,^{10c} Boeotian, Elean, Laconian,^{10d} Argolic, Cretan, East Aegean Doric, Pamphylian), whereas in others a new couple of phonemes originated, possessing the qualities of close \bar{e} , \bar{o} (Ionic, Attic, the North-West dialects, Corinthian, Megarian). In this way the second group of dialects became different from the presupposed Proto-Greek condition, in reference to its system of long vowels, because the origination of new long \bar{e} - and \bar{o} -phonemes resulted in the transformation of its hitherto existing three-grade system into a four-grade system. This innovation set in in all probability somewhere on the boundary of the second and first millenniums B. C. Later dates are excluded partly by the fact that the first compensatory lengthening is an older phenomenon than the Ionic-Attic change $\bar{a} > \bar{e}$ (which took place about 900 B. C. according to Risch),¹¹ and partly because the first lengthening, in all probability, came in time to find Attic and Ionic still in association in the East-Central Greece. On the other hand, an earlier, that is to say Mycenaean (i. e. pre-Doric), origin of this innovation appears to be improbable, as we find all West-Greek dialects participating in it. The region in the neighbourhood of the Gulf of Corinthus may be taken for a plausible place of its origination and primary spread, even though the original integrity of this innovation area had possibly been disturbed long before the classical era. One source of disturbance was Boeotia with its only \bar{e} and \bar{o} , no matter whether going back to the primary \bar{e} , \bar{o} , or to that which originated through compensation or contraction, while, on the other hand, there is Achaea, in reference to which it would hardly be possible to determine the form of long-vowel system of dialect prevailing there in the beginning of the first millennium B. C. As to Achaea, we encounter in the historical era variable practice in the use of *H* and *EI*, or of Ω and *OY*, for that part, without being able to determine any either chronological or etymological difference between these two ways of spelling (the Achaean material is comparatively too scarce and for the most part too young, for that). Considering, however, Strabon's information about the ancient seats of the Ionians in the north of Peloponnesus,¹² we may take for highly probable that the ethnical situation was in this region still different in the beginning of the 1st millennium than in the classical era and that the innovation territory, whose characteristic feature was the four-grade long-vowel system, may have still been integral at that time. As to Boeotian, this dialect could be classified in this connection as an Aeolic dialect in its origin, in which the surroundings and West-Greek superstratum hindered, to be sure, the typical Aeolic process of the consonantal groups subjected to the first compensatory lengthening being liquidated by gemination, yet Boeotian, on the other hand, resisted also to the expansion of the original three-grade system into a four-grade one. Besides Boeotian it was also the biggest part of the Peloponnesus that remained unaffected by this systemic innovation, the same being true at that time about the whole of Aegean Doric, too. The occurrence of the three-grade long-vowel system does not signify, of course, either here or in Boeotian anything else except mere preservation of an older stage, without implying, of necessity, any closer connection between the single dialects.

Thus against Thumb's supposition, assuming that the secondary close \bar{e} , \bar{o} arose through the intermediate stage of an older open \bar{e} , \bar{o} ,¹³ we suggest another hypothesis: the secondary close \bar{e} , \bar{o} may have developed directly, immediately after the first compensatory lengthening had occurred, even if within a geographically

restricted sphere. This means that in dialects distinguishing with consistence the primary and the secondary \bar{e} , \bar{o} (Ionic, Attic, Megarian, Corinthian, the North-West dialects) never existed a stage with the secondary \bar{e} , \bar{o} assuming an open character.

2) In the case of the second compensatory lengthening, which is restricted partly to the secondary medial and at the same time suffixal consonantal group *-ns-* (which originated either from *-nt(h)-* or from the personal suffix *-nsi* / < *-nti* / in the 3rd plural), and partly to the primary terminal *-ns*, the situation is somewhat different, although in some respect, at least, analogical to the first lengthening. First of all we realize again that several Greek dialects keep apart of this lengthening, preserving the medial or terminal *-ns(-)* altogether unchanged or simplifying the terminal *-ns* into mere *-s*, without any compensatory lengthening whatsoever. This, of course, is an archaic phenomenon in itself, having no value as means of demonstrating any special closer relations between these dialects. At the same time it is worth noticing that this archaism cannot be traced down in any of those dialects in which the long-vowel system got enriched by acquiring the new phonemic couple of the close \bar{e} , \bar{o} at the time of the first compensatory lengthening already. The second lengthening fails namely to affect partly some of those dialects which did without the first compensatory lengthening altogether (Thessalian), and partly also some whose long-vowel system remained unaffected in the course of the first lengthening process (Arcadian, Argolic¹⁴ and Central Cretan¹⁵ have no second lengthening at all, and in the East Aegean Doric dialects¹⁶ and in those from Western and Eastern Crete one does not find it in terminal position at least). In Thessalian no second lengthening took place, no doubt, because there existed in the foregoing history of the dialect no model for such lengthening, while as to the last mentioned group of dialects, we may take for decisive that their then universal \bar{e} , \bar{o} was sufficiently taxed in respect to its function.

The same inhibition, even if somewhat altered, asserted itself also in those dialects which were not altogether immune against the second lengthening, but in which this process stopped, so to say, half-way, and the liquidation of the nasal was accomplished as follows: while liquidating, it left behind a kind of semivocal sound, which along with its foregoing vowel produced real diphthongs *ei*, *oi* and also *ai*. This phenomenon can be demonstrated partly in Lesbos, and partly in Elis (here in terminal position only but not always),¹⁷ Cyrene, and Thera (in the latter two only medially); besides we meet with it also in Alcman,¹⁸ which, however, is not a sufficient justification to presuppose its existence also in Old Laconian. Some authors (e. g. Thumb)¹⁹ ascribe this innovation an Aeolic character, concluding from it a wider spread of Aeolic before the arrival of the Dorians. Others, on the other hand, take this phenomenon for an expression of parallel development, running its course in Lesbos, in Elis, and in Thera, and in each of them quite independently (Lejeune's opinion),²⁰ or accomplished independently in two separate regions, partly in Aeolic of Asia Minor and partly in the stripe of territory passing from the area of Thera through Laconia to Elis (this view is held by Porzig),²¹ Laconian, to be sure, being a somewhat weak link of the chain.

We can hardly embrace Thumb's hypothesis about the Aeolic origin of the secondary diphthongs *ei*, *oi*, *ai*. In our opinion this phenomenon — which in fact also implies the origination of certain compensatory vocalic sounds, even if compensatory diphthongs in our case — can be included in the process of the second compensatory lengthening as well, the origination of the said diphthongs *ei*, *oi*, *ai* being simply taken for an approximately equivalent, even if less radical and from the distinctive point of view more suitable method of liquidating the phonic group *-ns(-)*

than that which is represented by the complete compensatory lengthening with a long-vowel outcome of the process. This view finds corroboration in the fact that these compensatory diphthongs do not occur in those dialects in which the first lengthening gave rise to the new phonematic couple of the close \bar{e} and \bar{o} , and which were thus protected from the danger of their \bar{e} - and \bar{o} -vowels being from the functional point of view overtaxed. Besides it is also worth noting that these compensatory diphthongs can be demonstrated only in those dialects that can be classified as border dialects. — As it may be seen, our opinion is rather a modification of that of Lejeune.

On the other hand, a complete and consistent second compensatory lengthening asserts itself in Attic, Ionic, Pamphylian, Boeotian, in the North-West dialects, in Laconian, Megarian, and Corinthian. In all these dialects also the first compensatory lengthening was accomplished, and in most of them (with the exception of Boeotian, Laconian, and very likely also Pamphylian) it was as early as then that the special new couple of close phonemes \bar{e} and \bar{o} was formed. And it was just with these phonemes that the \bar{e} - and \bar{o} -results of the second lengthening amalgamated in Attic, Ionic, the North-West dialects, Megarian, and Corinthian, which meant that the functional taxation of the open \bar{e} and \bar{o} remained unaltered in these dialects, corresponding from the historical point of view to that of the old \bar{e} , \bar{o} .²¹ On the other hand, in Boeotian, Laconian and Pamphylian the then existing high taxation of the universal \bar{e} and \bar{o} reached now a still higher degree. To a certain extent this holds good also about Elis, Western and Eastern Crete, and the East Aegean Doric, for even in these territories the liquidation of the consonantal group *-ns(-)* takes place, implying a complete compensatory lengthening of the preceding vowel, the same occurring here as a rule,²² of course, only in medial positions, while in the terminal position *-ns* either gets simplified into *-s* (Eastern and Western Crete, East Aegean Doric), or the situation may result in the origination of a compensatory diphthong (Elis).²³

From the chronological point of view the second compensatory lengthening is a phenomenon that occurred later than the first lengthening; this conclusion is founded on what we know about Attic and Ionic. In these two dialects it is posterior when compared with the change $\bar{a} > \bar{\alpha}$ (cf. *σελήνη* < **selasnā* contra *πᾶσα* < **pantja*). If it is possible to draw general conclusions concerning Greek from this Ionic-Attic situation, the terminus post quem with respect to the accomplished second compensatory lengthening would have to be somewhere about the 9th cent. B. C. It is not possible, to be true, safely to determine the starting place of the mere tendency to weaken the *n* within the secondary medial *-ns-* and the primary terminal *-ns*; nevertheless, it must have been pretty old, and in a way, even if indirectly, it was likely connected with the tendency to liquidate the primary medial *-ns-*, a tendency which is known to us from the first compensatory lengthening (the type **ephansa* > *ἐφᾶνα*). On the other hand, the process of complete realization of the 2nd lengthening is sure to have taken place only within those dialects that underwent the 1st compensatory lengthening. — In any case, it is rather probable that the whole process took a pretty long time, and that the future Ionic settlers, for instance, participated in Europe in the starting stage of this process only, and brought it to its complete termination later in Asia Minor by accomplishing the total compensatory lengthening, upon the whole, independently of the other lengthening dialects.

3) We can dispose with a still smaller number of dialects than in the case of the second compensatory lengthening, when wishing to demonstrate the lengthening of the foregoing vowel, which was a kind of substitute for the liquidation of the

phonic groups *-lw-*, *-rw-* and *-nw-*. This phenomenon can be observed in Ionic (but not in Attic and neither in Euboea), further it can be demonstrated in Argos (but not in Epidaurus or Troezen), in Crete, and in East Aegean Doric. From this geographical picture it may, therefore, be assumed that in contrast to the first and the second compensatory lengthenings this process did not represent a general tendency, affecting a great part of the Greek speaking world, but a minor isogloss comprising just the south-east of the Aegean region. We find the most convincing proof of the restricted character of this isogloss in the fact that among the Ionic-Attic dialects the only one affected by this change is Ionic in Asia Minor and in the Cyclades.

The age of this innovation need not have been the same in all the above-mentioned dialects. It is sure, however, that the date of its origin is prior to the oldest inscriptions we know of in these dialects. One might even assume that the Homeric words *ξείνιος* and *γοῦναρα* would be pointing to an exceptionally old chronology, provided, of course, that they do not represent in this poetry a later adaptation of their older metrical equivalents **ksenwios* and **gonwata*. On the other hand, it certainly may be taken for granted that this lengthening was upon the whole younger than the second compensatory lengthening. We find some indication thereof in the fact that in some of these dialects, at least, the *ē*- and *ō*- outcome of the third compensatory lengthening is marked by signs differing from those that were employed for the *ē* and *ō* products of the first and the second lengthenings.

We have stated in the introductory chapter that in East Aegean Doric — not including Cyrene — open spelling is to be traced down to the 1st and 2nd compensatory lengthenings, while the *ē*, *ō* which are the products of the third lengthening (and of the contraction) are usually depicted with close spelling. As for the *ē* the same difference is usually found also in the oldest inscriptions in Central Crete. It was only in the course of time that even for *ē* that arose from the third lengthening (and also from contraction) „open sign“ H began here to be used. [On the other hand, in the Ionic of Asia Minor and of the Cyclades, in Cyrene, and in Argos the results of all the established²³ lengthenings are in accord: Ionic employs the close *ē*, *ō*, while Cyrenaean and Argolic of Argos have inserted the *ē* and *ō* outcome of the third compensatory lengthening in their universal *ē*, *ō* (as to these two dialects, this originally universal *ē*, *ō* was, however, with certainty at least in Argos soon to be shifted into the open *ē*, *ō*, after the *e + e*, *o + o* contractions giving the close *ē*, *ō* had taken place there).]

It is true, these arguments do not exclude the possibility of the third and the second compensatory lengthenings running a parallel course in some of the dialects, e. g., in the Ionic of Asia Minor and of the Cyclades, yet it does not appear very probable, according to our opinion. In no case was the third compensatory lengthening as old a phenomenon as to make us believe in accord with Bechtel that in the sphere of Doric dialects it is to be taken for a product of the pre-Doric substratum.²⁴

Nevertheless, the real origin of this change should be very likely ascribed to the Ionic of Asia Minor and of the Cyclades. In this part of the Greek speaking world the sound *w*, usually depicted in Greek dialects with the letter F, was disappearing at a comparatively early date.^{24a} In this way it may have come to pass that in the course of the liquidation of groups *lw*, *rw*, *nw*, where the beforesaid *w* was likely disappearing before the same process commenced in other positions,²⁵ the same compensatory tendencies asserted themselves that played such a characteristic part in the preceding two lengthenings. From Ionia and the Cyclades the 3rd lengthening likely spread to East Aegean Doric, to Crete, and Argos,^{25a} which occurrence may

have been associated also with the fact that in these dialects the hitherto existing three-grade long-vowel system was rigorously disturbed about the beginning of the second quarter of the 1st millennium B. C. At this time namely it was the contraction of the hiatic $e + e$, $o + o$ that took place there, as we are just going to explain in the next paragraph (where the systemic consequences of both the third lengthening and the $e + e$, $o + o$ contractions will be dealt with together, without implying, however, that both the mentioned processes were simultaneous).

4) The contraction of two short e , or o is a phenomenon that occurred in all Greek dialects, for example also in Thessalian and Lesbian, and it would be quite useless to try to find the geographic place of its origin. But this contraction is not easy to classify chronologically either. If we disregard contractions, whose character makes us trace them back to Proto-Greek (such as \bar{e} in the temporal augment, e. g., in *ἤλαυνον*), the terminus post quem would be represented by the times when the intervocalic $-j-$, or the h which was the product of intervocalic $-s-$, were disappearing, i. e. by the last quarter of the 2nd millennium B. C. Terminus ante quem is altogether undeterminable, for the contraction of the vocalic couples $e + e$, $o + o$ occurs even in the late hiatic groups, such as $e + e$ originating from $-ewe-$. Besides, the tendency to form contractions may have been stronger at some time and weaker at another time. On the basis of written material, the only plausible conclusion we may venture to draw is that of taking most $e + e$ and $o + o$ contractions for a comparatively late phenomenon. It finds support in numerous instances of non-contracted $e + e$, $o + o$ appearing still in Homer,²⁶ although one must admit that owing to the greatly differing age of various elements of archaic Greek epic poetry as well as to the fact that in poems it is the metrical aspect of the words that assumes primary significance, it is hardly possible to base on the analysis of this poetic language any more definite chronological conclusions.

The resulting vocalic quality originating by the contraction of $e + e$, or $o + o$, fuses in most Greek dialects with the phonemes that were typical for the products of the older types of compensatory lengthening.^{26a} This was accomplished almost^{26b} consistently in those dialects where a second \bar{e} , \bar{o} pair was formed as early as in the course of the first compensatory lengthening (the resulting contracted secondary vowel was amalgamated here with the close \bar{e} , \bar{o}), while within the dialects preserving an only \bar{e} , \bar{o} since the first lengthening we meet now with an important deviation.

This disproportion concerns those Doric dialects we discussed when dealing with the third compensatory lengthening, and also Pamphylian. In East Aegean Doric (excepting Cyrenaean), in Argolis (in this case all over the territory) and in Pamphylian, the secondary \bar{e} , \bar{o} originating by means of contraction — and in non-Cyrenaean East Aegean Doric by means of the third lengthening as well —^{26c} came into being as an altogether new \bar{e} - or \bar{o} - phoneme of close quality, under the influence of which the older, originally universal \bar{e} , \bar{o} , was shifted in these dialects into the open \bar{e} , \bar{o} . In the oldest alphabetic inscriptions of Central Crete this is usually applied at least to the \bar{e} .

If we take into account a certain geographic relationship of all these dialects and also the fact that they were mostly adjoining a territory in which the four-grade long-vowel system had been predominating for many years, we see in this process a further progress of this systemic innovation. It is of interest to notice that it took place at a time when, specially after the accomplishment of the contraction $e + e$, $o + o$, the hitherto existing universal \bar{e} , \bar{o} would have here already become exceptionally overtaxed. In this reconstruction of the long-vowel system the direct example

to follow was evidently Ionic, on the one hand, and Attic, Megarian, and Corinthian, on the other, the latter three applying mainly to Argolic.

(As to Argos, where the practice of the engravers adheres to the open quality of the \bar{e} , \bar{o} in the case of the third compensatory lengthening, while in the case of contractions to the close one, this difference may be explained by pointing just to the probability that in Argos the formation of the close quality of the long \bar{e} , \bar{o} resulting from contraction may have been affected *also* by the neighbourhood of Attic, Megarian, and Corinthian with their \bar{e} - and \bar{o} - products of the two older lengthenings, while with reference to the third lengthening process one could take into account *only* the influence of the more distant Ionic and of the dialects of the Aegean Doric, since in Attic, Megarian, and Corinthian the third lengthening was an unknown phenomenon. This geographically somewhat distant influence of Ionic and Aegean Doric gave rise in Argos most likely only to the third lengthening itself by just bringing it into this region from the south-east, whereas the qualitative formation of its \bar{e} - and \bar{o} - outcome was already a pure Argolic process, not simultaneous, of course, with, and probably prior to, the Argolic contraction of the equivocalic $e + e$, $o + o$.)

This line of development is, however, broken by Cyrenaean with its „open signs“ H , Ω , replacing even the $e + e$ or $o + o$. According to Bechtel²⁷ the Cyrenaean situation was due to the influence of later Cretan immigrants, who settled down about 570 in Cyrene,²⁸ founded by the Therans in the middle of the 7th cent. B. C.; Thumb,²⁹ on the other hand, ascribes this phenomenon to an older phase of development, when in his opinion the secondary \bar{e} , \bar{o} was still of a non-close quality. The first explanation is hardly plausible, for, as we know, it is in the oldest Cretan inscriptions, originating in the 7/6th cent. B. C., that close spelling, on the contrary, can be demonstrated for the \bar{e} sounds that were the outcome either of contraction or of the third lengthening. The second explanation appears more probable, but the older phase alluded to by Thumb should concern rather the development of the long-vowel system than the development of an uniformly conceived secondary \bar{e} , \bar{o} . The best solution might be found in the hypothesis suggesting that about 640 B. C., when the Theran colonists founded Cyrene, Thera was still the scene of occurring contractions of the $e + e$, $o + o$, and perhaps was not far beyond the realization of the third lengthening, the long \bar{e} - and \bar{o} - outcome of these phonic changes being still quite indifferent there, from the phonemic point of view, i. e. it had not yet entered the Theran long-vowel system in the form of two independent phonemic units. In the further stage of development the Cyrenaeans, on the one hand, introduced this outcome very likely in their hitherto existing universal \bar{e} , \bar{o} — just as it happened in East Aegean Doric generally in the course of the first and, upon the whole, also of the second lengthening, provided it took place there. In contrast to it, the mother island Thera as well as the rest of East Aegean Doric were shortly after most likely the scene of a quite contrary process: under the increasing pressure of the Ionic element a new couple of phonemes arose of a closer character, ousting at the same time the old universal \bar{e} , \bar{o} , which gradually assumed a more open position.

An analogical explanation can be applied also to Cretan. Even the existence of the double \bar{e} spelling in the oldest inscriptions of Central Crete was probably only an expression of an original phonemic balance between the primary \bar{e} , \bar{o} and the qualitatively equal outcome of the first two compensatory lengthenings, on the one hand, and the results of the third lengthening as well as of the equivocalic contractions $e + e$, $o + o$, on the other hand. With the above-mentioned situation preserved in Cyrene correspond Cretan conditions that can be demonstrated in Crete as late as in the 5th and 4th cent. B. C., when the new \bar{e} , \bar{o} , which was the product of the

third lengthening and of the equivocalic contraction, was an entirely organic part of the old universal \bar{e} , \bar{o} , from the phonemic point of view. This explanation, which will do both for Cyrenaean and for Cretan, helps us to do without Thumb's theory, according to which the Cretan \bar{e} , \bar{o} which was the product of contraction or of the third lengthening, possessed an independent phonemic value still in the 3rd cent. B. C., the variability in the Cretan graphic reproduction of these vowels (E , O /VII—VI^a), H , O /V^a/, H , Ω /IV^a, after the adoption of the Ionic alphabet/, E , O side by side with H , Ω /III^a/) being according to this author to be accounted for by purely graphical factors.

On the other hand, within the dialects where a second \bar{e} , \bar{o} pair was formed as early as in the course of the first compensatory lengthening, the only deviation was found in West Locris. When compared to phenomena discussed above, it displays the very opposite character. Here we can namely demonstrate in comparatively old inscriptions the use of the sign OY for the first and the second compensatory lengthenings of the vowel \bar{o} , the said sign OY indicating the close quality of the new \bar{o} (all this being in accord with usage in the North-West dialects), but the result of the contracted $o + o$ is reproduced in some of these inscriptions³⁰ by the letter O , which is supposed to indicate an open sound.

According to Bechtel and Thumb³¹ we are to see in this fact again traces of the original non-close pronunciation of every secondary \bar{e} , \bar{o} in the Greek dialects. But taking into account considerable isolation of this phenomenon (it is restricted to a few inscriptions from the 5th cent. B. C.), and also the fact that the oldest Locrian use of the signs O and E to reproduce any secondary \bar{e} , \bar{o} whatsoever just began at this time to make way to the later spelling OY , EI ³², we think more probable the view that even this situation was an outward expression of graphic-phonetic perplexity of the engravers. Neither they were likely able to make up their minds as to the quality of the new long \bar{o} , only recently originated from $o + o$ and having not yet acquired a definite phonematic character, and while trying to differentiate it in graphic reproduction, they declined, at least in the beginning, to reproduce it with the new symbol OY . To be sure, this hypothesis fails to explain the fact, why the same inscriptions did not indicate also the contracted \bar{e} with the sign E .³³

Our hypothesis falls back to Ahrens³⁴ in that it presupposes a certain grouping of Greek dialects as early as in the course of the oldest compensatory lengthening. This \bar{e} , \bar{o} displayed different qualities, when arising, according to the dialect in question. In some it got identified with the primary \bar{e} , \bar{o} from the phonematic point of view (evidently in Arcadian — and perhaps also in Cyprian —, in Laconian, Elean, Cretan, Boeotian, Pamphylian, Argolic and in East Aegean Doric), the actual quality of this universal essentially more taxed \bar{e} , \bar{o} being not a matter of major importance for us. Or else this newly arisen secondary \bar{e} , \bar{o} assumed the place of a new independent \bar{e} , or \bar{o} phoneme, whose characteristic feature was for sure a close quality (this situation existed most likely in the rest of the Greek dialects, with the exception of Thessalian and Lesbian, in which the first lengthening did not take place. This process reoccurred afterwards in the later types of the compensatory lengthening and also in the course of the equivocalic contraction $e + e$, $o + o$, even though the quality of the resulting long vowel may have been influenced in each type of the above-mentioned phonic changes by the co-existing quality of the short e , o in any of the dialects. This was most likely the cause giving rise to the close \bar{e} , \bar{o} , produced by contraction or by the third compensatory lengthening in most of the dialects of East Aegean Doric (probably Cyrene excepting) — and in Pamphylian, as well as in

Argolic outside Argos, by the contraction at least —, in opposition to the open \bar{e} , \bar{o} , originating here from both types of the older compensatory lengthening (the situation in Argos with its open outcome of the third lengthening was different in this detail only). As to these dialects, one may adhere to Vega's opinion, who believed in a special, somewhat more close outcome of the \bar{e} - and \bar{o} -equivocalic contraction, and — Argos excepting — even of the latest compensatory lengthening. In the other dialects, however, one should assume that the resulting vowel of the \bar{e} - or \bar{o} -shade simply found its place in the existing long-vowel system. The above hypothesis is, according to our opinion, the only view that one can take, without resorting to speculations which are not based on adequate linguistic material. At the same time this hypothesis offers an explanation of the problem of the double Greek \bar{e} and \bar{o} both from the point of view of the mutual systemic relations of all the \bar{e} - and \bar{o} -qualities, and also with due consideration of the entire long-vowel system in each single Greek dialect. And finally, this explanation of the systemic processes of the single types of compensatory lengthening as well as of the equivocalic contraction throws a new light upon the differentiation of the Greek dialects in the early centuries of the 1st millenium B. C.

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¹ We do not take into consideration the secondary \bar{o} originating in some dialects by non-equivocalic contraction $e + o$, for this is a phenomenon restricted to a few Greek dialects (consistent only in Attic). That is why the term „contraction“ will preserve with us the meaning „equivocalic contraction $e + e, o + o$ “.

² See Table I, p. 92. As for the concrete linguistic evidence, consult the respective paragraphs esp. in *Thumb—Kieckers*, Handbuch der griech. Dial. I², Heidelberg 1932, and in *Thumb—Scherer*, Handbuch der griech. Dial. II², Heidelberg 1959. It was not possible to include the respective material in this work.

^{2a} We do not take into consideration the occasional Elean spelling A for the primary \bar{e} , e. g. in $\mu\acute{\alpha} = \mu\eta$.

^{2b} Here, we do not take into account the occasional spelling I instead of EI for the contracted \bar{e} in Argos; cf. below the Note 8. As for the analogical spellings in Boeotian and Pamphylian it must be stressed that all the examples of this kind in the respective dialects are fairly late (all of them belong to the period after 350 B. C.). On the other hand, the comparatively earlier Attic-Ionic as well as Corinthian evidence for the change $\bar{o} > \bar{u}$ has not been directly reflected in the local spellings, the graphic disguise remaining always OY. For more details see *Bartoněk*, SPFFBU E 6 (1961), 135sq. (But on p. 140 „Cyrenaean“ is to be replaced by „E. and W. Cretan“.)

^{2c} As for the West Loecrian graphic disproportion concerning the result of the $o + o$ contraction see below on p. 87.

³ The word „usually“ wants to say here that the occurrence of the open quality generally predominated in older times over the close quality, being maintained up to the time, when the influence of Koine became quite distinct. As to Rhodos, where we are short of any evidence of „open signs“ for the second compensatory lengthening, we cannot ascribe great significance to the preserved evidence of the „close signs.“ Here we meet with nearly exclusively later texts whose chronology admits the possibility of the influence of Koine or of other interdialectic infiltration.

⁴ Provided the second compensatory lengthening here occurred at all.

⁵ Nevertheless, see Cyrenaean O (quoted by *Buck*, Greek Dialects³, Chicago 1955, p. 29) for $o + o$ in Gen. Sing. at the time, when the Cyrenaicans were already employing Ω . On the contrary, the form $\pi\alpha\sigma\epsilon\iota\tau\alpha\iota$ Abh. d. preuss. Ak. d. W. 1925, No. 5, pp. 21sq., II₄₀ ($\delta\rho\kappa\iota\omicron\nu\sigma$ Theraeorum a viro Cyrenaico incisum, IV), occurring beside $\delta\eta\sigma\eta\tau\alpha\iota$ Sitzungsber. d. preuss. Ak. d. W. 1927, No. 19, pp. 155sq., A₃₉ (IV ex.), is probably Theran.

⁶ In the most archaic inscriptions cf. $\pi\epsilon\nu\eta\kappa\omicron\nu\tau\alpha, \delta\} \pi\eta\lambda\epsilon\nu = \delta\phi\epsilon\lambda\epsilon\iota\nu$ GDI 4979₁ (Gortys, VI?) with $\varphi\omicron\sigma\mu\acute{\epsilon}\nu, [\kappa\sigma\} \epsilon\nu\iota\omicron\varsigma$ l. c.₂, in the less archaic inscriptions cf. $\eta\mu\eta\nu$ GDI 4998 I₂ (Gortys, V?) with $\kappa\alpha\lambda\eta\nu$ GDI 4998 II₉ (Gortys, V?) and $[\kappa\} \sigma\eta\mu\iota\omicron\varsigma$ GDI 5003 I₂ (Gortys, V?), in the 3rd cent. B. C. cf. $\mathcal{F}\epsilon\zeta\eta\kappa\omicron\} \nu\tau\alpha$ GDI 5100₁ (Lyttos — Malla (East Crete), III) with $\omicron\upsilon\lambda\acute{\epsilon}\nu$ l. c.₂.

⁷ As to Mycenae, the actual situation is hitherto unknown, in East Argolic Epidaurus and Troezen, however, the third lengthening certainly did not occur at all (cf., e. g., $\mu\acute{o}\nu\omicron\nu$, $\delta\lambda\omega\varsigma$, $\kappa\acute{o}\rho\omicron\nu$, $\kappa\acute{o}\rho\alpha\nu$ Syll³ 1163_{73,74,5,10} etc. [Epidaurus, IV]). The Argos forms such as $\pi\rho\acute{o}\xi\epsilon\nu\omicron\nu$ Mnemosyne 43, 366 A₄, B₄, may, in all probability, be explained by the influence of Koine (cf. *Bechtel*, Griech. Dial. II 445, *Thumb—Kieckers* 115). We encounter, however, a less perspicuous situation, when trying to determine the extent in which Koine affected the above-mentioned practice in Epidaurus (cf. *Bechtel*, l. c.).

⁸ The secondary \bar{e} from Argos, originating by contraction from $e + e$, appears to have fused with \bar{i} as early as the middle of the first millennium B. C. Evidence for that is available when considering the expressions $\tau\epsilon\lambda\iota\tau\acute{o}, \acute{\alpha}\rho\alpha\mu\iota\sigma\theta\alpha\iota$ Schw. 83 A₁₃, B₆ (cca 450), $\kappa\alpha\lambda\iota\sigma\theta\alpha\iota$ Schw. 99₁₂ (cca 200).

⁹ On the contrary, the East Argolic Hermione seems to join the type of the Greek dialects with one \bar{e}, \bar{o} only, as we see from the locally prevailing sign Ω representing the contraction product $o + o$. Cf. *Bechtel* II 449, *Thumb—Kieckers* 114.

¹⁰ The first to attempt an explanation of this significant difference between dialects with one \bar{e}, \bar{o} only and those possessing the same sounds in pairs was *Ahrens* (De Graecae linguae dialectis II, Göttingen 1843, p. 5 etc.), dealing, however, with the sphere of the “Doric”, i. e. West Greek dialects only and dividing them into Doris severior and Doris mitior. According to *Ahrens* the

whole thing was a question of accomplishing a distribution of the dialects from the local point of view, neither of the two types being looked upon as senior. In contrast to this excessive simplicity of *Ahrens's* theory *Thumb* presented his view (*Handbuch der griechischen Dialekte*, Heidelberg 1909, pp. 201—205), maintaining that the difference between strict and moderate Doric, as well as within the other ancient Greek dialects, was founded on a chronological basis. According to him every Greek dialect passed in its development through a stage in which the primary $\bar{\epsilon}$, \bar{o} on the one hand and the results of the $e + e$ and $o + o$ contractions as well as of the compensatory lengthenings on the other were both non-close, though differing in quality. On the other hand, the occurrence of the secondary close $\bar{\epsilon}$, \bar{o} in all the Greek dialects of the „moderate“ type represented according to *Thumb* an innovation, which in the classical era was spread throughout the north-east of Peloponnesus, and the north-west and south-east of the Greek speaking world, and which later, owing to Koine, was adopted also in the dialects of the „strict“ type. This theory of *Thumb*, however, fails to explain how it was possible that the two non-close $\bar{\epsilon}$, \bar{o} , — both the primary and the secondary ones, existing according to *Thumb* originally side by side as separate qualities, managed for such a long time to preserve their phonematic independence to such an extent as to enable one of them in the course of time to separate from the other in a number of Greek dialects and to be transformed into the close $\bar{\epsilon}$, \bar{o} .

The most recent criticism of *Thumb's* theory was published by *Lasso de la Vega* in the article *Sobre la historia de las vocales largas en griego*, *Emérita* 24 (1956), 261—293. This author does not see in the complicated situation, demonstrated in Argolic, Pamphylian, Cretan and in East Aegean Doric, a transition phase between the stage with the open $\bar{\epsilon}$, \bar{o} and that with the close $\bar{\epsilon}$, \bar{o} , as *Thumb* would have it, but he considers it to be a reflexion of the original state, believing that the vowels $\bar{\epsilon}$, \bar{o} resulting from the older types of the compensatory lengthening possessed from their very origin a rather open quality, while those that were products of contractions or of the third compensatory lengthening (i. e. of later phonic processes) possessed a close quality. The author follows in this respect partly the idea of *Brause* (*Lautlehre der kretischen Dialekte*, Diss. Halle 1909, p. 124sq.). In spite of his good points — the author presupposes the possibility of different results, as to quality, in the different types of the discussed changes — his drawback consists in the fact that this variety of phonic results is not classified according to the single dialects, as well. And the chief methodical defect lies in his presenting the primary $\bar{\epsilon}$, \bar{o} , the secondary $\bar{\epsilon}$, \bar{o} originating from the two older types of the compensatory lengthening, and the $\bar{\epsilon}$, \bar{o} which is the product of contraction or of the third compensatory lengthening, as three quite independent units, whose development *Lasso de la Vega* follows without taking into account their relationship to the other members of the long-vowel system, yes, even their mutual relationship.

The problem of the structure of the long-vowel system as a whole has so far been approached more closely only by *W. S. Allen* in his excellent study *Some Remarks on the Structure of Greek Vowel System*, *Word* 15 (1959), pp. 240—251 [e. g. he does not postulate for H, Ω in the dialects with one $\bar{\epsilon}$, \bar{o} an open quality of these vowels]. *Allen's* analysis is, unfortunately, only a synchronic study, failing to trace systematically the foregoing systemic development.

^{10a} By the first compensatory lengthening the following primary consonantal groups were affected: *rs, ls, ms, ns, sr, sl, sm, sn, sw, ln*.

^{10b} As to this matter, see *Bartoněk*, *Vývoj konsonantického systému v řeckých dialektch* = *Development of the Consonantal System in the Ancient Greek Dialects*, Praha 1961, 143 sq.

^{10c} But cf. the occasional Arcadian forms without this lengthening as registered in *Thumb-Scherer* 126.

^{10d} But cf. the exceptional Laconian forms without this lengthening as registered in *Bechtel* II 316.

¹¹ *E. Risch*, *Die Gliederung der griech. Dialekte in neuer Sicht*, *Mus. Helvet*, 12 (1955), 65.

¹² *Strabon* VII 1, 2 p. 333.

¹³ See Note 10.

¹⁴ Argolic has *-ns(-)* both medially and terminally — with the exception of the preposition $\acute{\epsilon}\zeta$ and the preverb $\acute{\epsilon}\sigma$ -. Compensatory lengthening appears in $\tau\acute{\omega}\varsigma$ IG IV 742₁₉ (Hermione, ?), not to speak, of course, of some late forms with EI, OY influenced by Koine.

¹⁵ In many regions of Central Crete there is no difference in using *-ns* and *-s*, in the others either *-ns* or *-s* is preferred in terminal position.

¹⁶ In East Aegean Doric second compensatory lengthening appears medially (*-ωσα* IG XII, 3 Suppl. 1289 AD₃ (Thera, ?), *ἀρωνα* Diehl VI 201 (Rhodos)), but in Cyrene we find regularly compensatory diphthongs; cf., e. g., frequent Cyrenaean *παῖσα*, which was found also in Thera (see *Buck*,³ p. 67). In terminal position *-s* without lengthening is regular, before the influence of Koine comes to be felt. In West and East Crete compensatory lengthening appears medially, while *-s* without lengthening is found terminally in the classical period.

- ¹⁷ In Elis second compensatory lengthening with the spelling H, Ω is the regular practice medially, terminally either compensatory lengthening or compensatory diphthong is found.
- ¹⁸ In Alcman regularly in medial position.
- ¹⁹ Cf. *Thumb—Kieckers* 241, 175 sq.
- ²⁰ Cf. *Lejeune*, BSL 34, 165.
- ²¹ Cf. *Porzig*, IF 61 (1954), 159sqq.
- ^{21a} This holds good, of course, only if Attic-Ionic change of $\bar{a} > \bar{a}\bar{e} > \bar{e}$ has not yet passed the stage of $\bar{a}\bar{e}$ by the time of the operation of the second lengthening.
- ²² This practice is, of course, not found in Cyrene, which has compensatory diphthongs in this position. But cf. also the Thera *παῖσα* (see Note 16).
- ²³ But Elis has also compensatory lengthening (see Note 17) in terminal position.
- ^{23a} Here we must stress that in Cyrene and in Argos the second lengthening never took place.
- ²⁴ Cf. *Bechtel* II 458.
- ^{24a} In Attic-Ionic, as well as in Lesbian and in East Aegean Doric, *w* disappeared before 600 B. C. See *Bartoněk*, *Vývoj* 143 sqq.
- ²⁵ Cf., e. g., *Buck*³ 46sqq.
- ^{25a} In Crete and Argos, in contrast to Ionic of Asia Minor and of the Cyclades and to East Aegean Doric, the third lengthening took place without being accompanied by the complete disappearance of *w* (this sound was in these territories undoubtedly pronounced still by the beginning of the Hellenistic era; see *Bartoněk*, *Vývoj* 143 etc.).
- ²⁶ Cf. *P. Chantraine*, *Grammaire homérique* I, Paris 1942, pp. 66 sq.
- ^{26a} In Thessalian and Lesbian where neither the first nor the second compensatory lengthening took place, it was the primary \bar{e} , \bar{o} with which the outcome of the $e + e$, $o + o$ contraction was amalgamated.
- ^{26b} See below the paragraphs dealing with West Locrian (p. 87).
- ^{26c} Pamphylian, and Argolic outside Argos, have no third lengthening at all, while Argos has an open outcome of the latter in contrast to the close outcome of the $e + e$, $o + o$ contraction (see more below on p. 86).
- ²⁷ Cf. *Bechtel* II 553.
- ²⁸ Cf. Herodotus IV 159sq.
- ²⁹ Cf. *Thumb—Kieckers* 318.
- ³⁰ Cf. in IG IX 1, 334 (Oeanthea, V*) the contracted $\delta\acute{\alpha}\mu\delta_4$, *Ναυπάκτῶ*₈ besides the lengthened $\tau\acute{o}\upsilon\varsigma \acute{\epsilon}\pi\iota\tau\omicron\iota\phi\omicron\rho\omicron\upsilon\varsigma_4$ and $\Lambda\omicron\kappa\rho\omicron\upsilon\varsigma \tau\acute{o}\upsilon\varsigma \text{H}\upsilon\pi\omicron\kappa\eta\mu\iota\delta\iota\omicron\upsilon\varsigma_{20}$.
- ³¹ Cf. *Thumb—Kieckers* 287 and *Bechtel* II 14sq.
- ³² In the inscription IG IX 1, 333 (Oeanthea, V*), which is, upon the whole, contemporary with IG 334, we meet with the sign O still employed with consistence in both cases (cf. $\tau\acute{o}\varsigma_{16}$, $\xi\acute{\epsilon}\nu\tilde{\epsilon}_{1,2}$ etc.).
- ³³ Both the results of the two older types of compensatory lengthening (the third compensatory lengthening did not take place in West Locrian) and the outcome of the contraction of $e + e$ are reproduced in the inscription IG 334 regularly with spelling EI.
- ³⁴ See Note 10.
- ³⁵ The open quality of the East Argolic \bar{e} , \bar{o} originating through the 1st lengthening is supposed only theoretically here; in concrete material coming from Epidaurus and Troezen these vowels are usually represented by „close“ spelling FI, OY, which is probably due to the Attic influence.

Translated by S. Kostomlatský.

Table 1: Occurrence of the primary $\bar{\epsilon}$, \bar{o} and the secondary $\bar{\epsilon}$, \bar{o} going back to the compensatory lengthenings and the equivocalic contraction in the Greek dialects about 350 B. C.

	ION	ATT	ARC	CYP	PAM	LES	THES	BOE	N-W	EL	LAC	COR	MEG	West ARG	East ARG	Centr. CR	West East CR	THER	CYR	RHOD etc.
Primary $\bar{\epsilon}$, \bar{o}	+	+	+	[+]	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Secondary $\bar{\epsilon}$, \bar{o}																				
Going back to the 1st CL	+	+	(-)	[+]	+	-	-	+	+	+	(-)	+	+	+	+	+	+	+	+	+
Going back to the 2nd CL	+	+	-	[-]	+	T	-	+	+	(+)	+	+	+	-	(+)	-	+	(T)	T-	+
Going back to the 3rd CL	+	-	-	[-]	-	-	-	-	-	-	-	-	-	+	-	+	+	+	+	+
Going back to the EC	+	+	+	[+]	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

+ change is established

- change is not established

T instead of the comp. long vowel a comp. diphthong is occurring

(+) } exceptional phenomena (not due to the
 (-) } influence of Koine
 (T) }

[+] } plausible inference
 [-] }

· prevalence of close $\bar{\epsilon}$, \bar{o}

◊ prevalence of mid $\bar{\epsilon}$, \bar{o}

◊ prevalence of open $\bar{\epsilon}$, \bar{o}

↓ $\bar{\epsilon}$, \bar{o} passing into $\bar{\iota}$, $\bar{\upsilon}$ before 350 B. C.

·
 +
 +
 ↓ } in the given symbols the first mark under the plus sign refers to $\bar{\epsilon}$, the second to \bar{o}

◊ T
 ◊
 ◊
 +
 +
 - } in the given groups of signs consisting of two symbols the first symbol refers to the inside of the word, the second to the end-part of the word