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The main sources of origin of the secondary ē, ō in Greek : compensatory lengthenings and e+e, o+o contraction

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V

THE MAIN SOURCES OF ORIGIN OF THE SECONDARY $\bar{e}$, $\bar{o}$ IN GREEK: COMPENSATORY LENGTHENINGS AND *e*+*e*, *o*+*o* CONTRACTION

The main 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. 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 three types of compensatory lengthening, as well as of the equivocalic contraction, directly for the classification of the ancient Greek dialects, we shall try to adhere to this systemic standpoint with consistency, our starting point being the scheme of the products of the above-mentioned phonic changes, as it is presented on the Table, p. 61. From the Table we can derive the following facts as to the single types of the respective phonic changes:

A. The compensatory lengthenings

i) *The 1st lengthening*

In the majority of Greek dialects (i.e. with the exception of Thessalian and Lesbian) the primary medial consonantal groups *-rs-*, *-ls-*, *-ms-*, *-ns-*, *-sr-*, *-sl-*, *-sm-*, *-sn-*, *-sw-*, *-ln-* were simplified by effecting a compensatory lengthening of the preceding vowel (the type **esmi* > *ēmi*, cf. Att. *εἰμί*, Lac. *ἠμί*; the so-called first compensatory lengthening). In Thessalian and Lesbian we find instead of the lengthened vowel a geminated consonant, an occurrence which, of course, belongs to the chapter dealing with the consonantal system.[110] In the other Greek dialects short *e*, *o* was

[110] As to this matter, see Bartoněk, *Vývoj* 143sq.

transformed by the first compensatory lengthening into long secondary $\bar{e}$, $\bar{o}$, which fused—rather immediately—in some of the dialects with primary $\bar{e}$, $\bar{o}$ (Arcadian,[111] Cypriot,[112] Boeotian, Elean, Laconian,[113] West Argolic, Cretan, East Aegean Doric, Pamphylian), whereas in others a new couple of phonemes originated, possessing the qualities of close $\bar{\varrho}$, $\bar{\varrho}$ and pushing pretty soon the old, primary $\bar{e}$, $\bar{o}$ to the open position of $\bar{\varrho}$, $\bar{\varrho}$ (Ionic, Attic, the North-West dialects, Corinthian, Megarian, East Argolic). In this way the second group of dialects became different from the presupposed proto-Greek condition, in reference to their system of long vowels, because the origination of new long $\bar{e}$- and $\bar{o}$- phonemes resulted in the transformation of their hitherto existing three-grade system into a four-grade system.

This systemic innovation set in in all probability somewhere on the boundary of the second and first millennia B.C. Later dates are excluded partly by the fact that the first compensatory lengthening is an older phenomenon than the Ionic-Attic change $\bar{a} > \bar{\alpha}$ (which took place about 900 B.C. according to Risch).[114] 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 regions in the neighbourhood of the Corinthian and Saronic Gulfs 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 very early.

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 compensatory lengthening or contraction, while, on the other hand, it was 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 there in the Historical Era variable practice in the use of *H* and *EI* or of *Ω* and *OY*, without being able to determine any chronological difference between these two ways od spelling (the Achaean material is comparatively too scarce and

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[111] But cf. the occasional Arcadian forms without this lengthening as registered in Thumb—Scherer 126.

[112] In spite of the rather small aptitude of the Cypriot spelling to reproduce Greek we may, nevertheless, take for very highly probable that even Cypriot accomplished the first compensatory lengthening, for otherwise the pronounced **esmi*, let us say, would have to be reproduced as e-se-mi, while we find in contrast to it in a bilingual inscription of the 6th cent. B.C. (Schw. 678) the Cypriot spelling e-mi documented, the alphabetic *EMI* occurring in the same inscription on the top of it; cf. Bechtel, *GD* I 408sq., and Thumb—Scherer 158. On the other hand, it is impossible to decide whether the written Cypriot to-se masked *tons*, *tōs*, *tōs*, or *tǭs*, and it appears to be safer to believe with Hoffmann, *GD* I 135 and 211, and with Bechtel, *GD* I 416, that the second compensatory lengthening did not run its course in Cyprus. Neither the third compensatory lengthening was probably accomplished here; see Thumb—Scherer 159.

[113] But cf. the exceptional Laconian forms without this lengthening as registered in Bechtel II 316.

[114] Cf. Risch, *MH* 12, 65; about the said change see more in Chapter VII, sub B.

for the most part too young for that). Considering, however, Strabon's information about the ancient seats of the Ionians in the north of Peloponnesos,[115] we may take for highly probable that the ethnical situation was in this region still different in the beginning of the 1st millennium from that of the Classical Era and that the innovation territory, whose characteristic feature was the four-grade long-vowel system, may still have 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 West-Greek superstratum as well as its West-Greek neighbourhood hindered, to be sure, the typical Aeolic process of the consonantal groups subjected to the first compensatory lengthening being liquidated by gemination, yet this West-Greek—or better to say this North-West Greek—influence was not prominent enough here to effect the expansion of the original three-grade system into a four-grade one. Besides Boeotian—as well as the other Aeolic dialects—it was also the biggest part of the Peloponnesos that remained unaffected by this systemic innovation (which was in progress about the beginning of the 1st millennium B.C.), the same being true about Cretan and the whole of East Aegean Doric, too. The occurrence of the three--grade long-vowel system does not signify, of course, in the mentioned dialects anything else except mere preservation of an older stage, without implying, of necessity, any closer connection between the single dialects in question.

Thus against Thumb's supposition, assuming that the secondary close *ę̄*, *ǭ* arose from an older non-close *ē*, *ō*, we suggest another hypothesis: the secondary close *ę̄*, *ǭ* may have developed directly, rather 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 *ē*, *ō* (Ionic, Attic, Megarian, Corinthian, East Argolic, the North-West dialects) there never existed a phonemically stabilized stage with the secondary *ē*, *ō* originated through the first compensatory lengthening and assuming an open- or maybe, let us to say, a non-close--character.

ii) *The 2nd lengthening*

The second compensatory lengthening (the type *tons* > *tōs*, cf. Att. τούς, Lac. τώς) is restricted partly to the secondary medial and at the same time suffixal consonantal group *-ns-* (which originated either from *-nt/h/j-* or also—outside the West Greek dialects—within the personal suffix *-nsi* [< *-nti*] in the 3rd Plural), and partly to the primary terminal *-ns*. The situation is in this case not expressly different from that of the 1st lengthening. First of all we realize again that several Greek dialects keep apart from 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

[115] Strabon VIII 1, 2 p. 333.

no value as means of demonstrating any special closer relations between these dialects. At the same time it is worth noticing that this phenomenon cannot be traced down—with the exception of the East Argolic subdialect—in any of those dialects in which the long-vowel system got enriched by acquiring the new phonemic couple of the close *ē̆*, *ō̆* at the time of the first compensatory lengthening already. When taking in no account the East Argolic subdialect, the second lengthening failed to affect first of all one of those dialects which did without the first compensatory lengthening altogether (Thessalian),[116] but also some of those in which the first lengthening took place, to be sure, but whose long-vowel system remained unaffected by this lengthening process (Arcadian,[117] West Argolic,[118] Cyrenaean[119] and Central Cretan[120] experienced no second lengthening at all, whereas in the remaining East Aegean Doric dialects[121] and in those from West and East Crete[122] one finds the 2nd lengthening, but usually only in the middle of the word). In Thessalian no second compensatory 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 only, universal *ē̆*,- *ō̆*-

[116] In Thessalian we find *-ns-* medially (e.g. *ἰερειτεύονσα* Schw. 616 a_3 [Phalanna, I?], with *-ns-* even in the Hellenistic Era), whereas in terminal position *-s* without lengthening is regular (e.g. *τὸς ταγός* [Acc. Plur.] Schw. 590_3 [Larisa, 214]).

[117] In Arcadian *-ns-* is regular medially (e.g. *πάνσας* Schw. 665 A_{12} [Orchomenos, ca. 350]) whereas *-s* without lengthening appears as a rule in terminal position (e.g. *τός* l.c. A_9).

[118] Argolic, whether in the West or in the East, has *-ns*[-] both medially and terminally (e.g. *θύονσι, τὸνς Κνōσίονς* Schw. 83 $B_{16\cdot17}$ [Argos, ca. 450])—the preposition *ἐς* and the verbal prefix *ἐσ-*, as well as several other occasional instances, being rare exceptions. Compensatory lengthening appears in *ποὶ τὸς* IG IV 742_{19} [Hermione, IV]—not to speak of some *EI-*, *OY-* forms due probably to the Attic influence.

[119] As to Cyrene, see p. 66; cf. also Note 121.

[120] Central Crete has always *-ns-* medially (e.g. *πσαπί(δ)δονσι* Schw. 175_1 [Gortys, litt. vetust.]), while in terminal position we find either *-ns* or *-s* without lengthening (e.g. *τόνς* side by side with *τός*). The first terminal form was originally rightly used before a vowel while the second before a consonant, but in the time of the preserved inscriptional documents this classification was no more observed, and in many communities in Central Crete both these types were employed promiscuously; in others we find only *-ns*, while there were also such as used exclusively *-s* only without any lengthening (cf. Thumb—Kieckers 156).

[121] In East Aegean Doric second compensatory lengthening was as a rule accomplished medially, whether with the open result (see *-ωσα* IG XII 3, 1289_3 [Thera, IV]; cf. also p. 51), or with close outcome (see the Rhodian examples *ἄγουσα* Diehl II 6, 39, fragm. 32_2 [cf. page 52] and *τιμοῦσα* IG XII 1, 1033_{12} [Karpathos, ca. 200]). In Cyrene, however, we find regularly "compensatory" diphthong in this position (cf. e.g. the frequent *παῖσα*, which was exceptionally found also in Thera [see Buck³ 67]).—In terminal position *-s* without lengthening is regularly found esp. in Cyrene and in Thera (see e.g. the frequent *τός*). In Rhodes we usually find this state of things already ousted by compensatory lengthening which was product of outer influences (cf. also Note 94).

[122] In West and East Crete this compensatory lengthening appears medially, for the most part, while *-s* without lengthening is found terminally.

sounds were already rather highly loaded from the functional point of view, since they already contained the *ē-*, *ō-* results of the 1st compensatory lengthening.

An analogical inhibition, even if somewhat altered, asserted itself also in those dialects which were not altogether immune against the second compensatory lengthening, but in which this process stopped, so to say, half-way, and the liquidation of the nasal was accomplished as follows: subject to dropping, it left behind a kind of fricative, or perhaps semiconsonantal sound, which along with its foregoing vowel produced real diphthongs *ei*, *oi* (or also *ai*, this being the case after the foregoing *a*). This phenomenon can be demonstrated partly in Lesbos,[123] partly in Elis[124] (here in terminal position only, but even in this case not quite regularly), in Cyrene, and exceptionally also in Thera[125] (in the latter two subdialects only medially); besides we meet with it also in Alcman,[126] which, however, is not a sufficient justification to presuppose its existence also in Old Laconian. Some authors (e.g. Thumb)[127] 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, either running its course in Lesbos, Elis, Thera (along with Cyrene) quite independently (Lejeune),[128] or accomplished independently in two separate regions, partly in Aeolic of Asia Minor and partly in the stripe of territory passing from the Aegean Doric area through Laconia to Elis (Porzig),[129] 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*.[130] In our opinion this phenomenon—which in fact also implies the origination of certain "compensatory" sounds, even if compensatory diphthongs in our case—can be directly included in the process of the second compensatory lengthening as well,[131] 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

[123] In Lesbos a "compensatory" diphthong is the regular substitute both medially and terminally (e.g. *παῖς* = *πᾶς*, *Μοῖσα* = *Μοῦσα*, *ταίς* = *τάς*).

[124] In Elis second compensatory lengthening with the spelling *H*, *Ω* is the regular practice medially (e.g. *δικά(δ)δōσα* Schw. 412_3 [Olympia, ca. 500?]), whereas terminally either compensatory lengthening (e.g. *(πε)ν(τ)ακατίας δαϱχμ(ά)ς* Schw. 411_{2-3} [Olympia, ca. 475]) or "compensatory" diphthong is found (e.g. *ζέκα μναίς* Schw. 409_3 [Olympia, ca. 475—450], or later *ταὶϱ δὲ γενεαίϱ* Schw. 424_1 [Olympia, ca. 350]).

[125] See Note 121.

[126] In Alcman regularly in medial position.

[127] Cf. Thumb—Kieckers 175, 241sqq.

[128] Cf. Lejeune, *BSL* 34, 165.

[129] Cf. Porzig, *IF* 61, 159sq.

[130] The very restriction of the occurrence of this phenomenon to a single Aeolic dialect, i.e. Lesbian, makes the quoted hypothesis rather problematic.

[131] The existence of a stage in which consonant *n* was only reduced before a succeeding *s* (or maybe its variant *z*) must namely be assumed, as it seems, in the initial phase of the second

-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 phonemic couple of the close $\bar{e}$ and $\bar{o}$, and which were thus protected from the danger of their *ē-* and *ō-* vowels being from the functional point of view overloaded. Besides it is also worth noting that these compensatory diphthongs can be demonstrated only in those dialects that can be classified as peripheral dialects.[132]—As it may be seen, our opinion is rather a modification of that of Lejeune.

A quite complete and consistent second compensatory lengthening asserted itself in Attic, Ionic, in the North-West dialects, Megarian, Corinthian, Pamphylian, Boeotian, and in Laconian. In all these dialects also the first compensatory lengthening was accomplished, and in most of them (with the exception of Boeotian, Laconian, and 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 *ē-* and *ō-* results of the second lengthening amalgamated in Attic, Ionic, the North-West dialects, Megarian, and Corinthian,[133] which meant that the functional taxation of the open $\bar{\varepsilon}$ and $\bar{o}$ remained unaltered in these dialects, corresponding from the historical point of view to that of the primary *ē*, *ō*.[134] On the other hand, in Boeotian, Laconian and Pamphylian the then existing high taxation of the universal *ē* and *ō* reached now a still higher degree. To a certain extent this holds good also about Elis,[135] Western and Eastern Crete,[136] and the East Aegean Doric[137] (Cyrene excepting) 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, however, only in medial positions, while in the terminal position *-ns* either gets simplified into *-s* (East and West Crete, East Aegean Doric), or the situation may—but need not—result in the origination of a compensatory diphthong (occasionally in Elis).[138]

The second compensatory lengthening occurred without any doubt later than the first compensatory lengthening; this conclusion is founded on what we know about

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compensatory lengthening even in those Greek dialects in which this change run its full course. Cf. also Note 202.

[132] Cf. also our remark concerning the peripheral dialects on p. 68.

[133] In this case we do not include here East Argolic, because the whole of Argolis kept apart from the second compensatory lengthening in principle; cf. above Note 118.

[134] In the Attic-Ionic area this holds good, of course, precisely said, only for the subdialects in question, where the change of $\bar{a} > \bar{\varepsilon} > \bar{\varepsilon}$ had not yet passed the stage of $\bar{\varepsilon}$ by the time of the operation of the second compensatory lengthening (see pp. 104sq.).

[135] See Note 124.

[136] See Note 122.

[137] See Note 121.

[138] In Elis we namely find also compensatory lengthening (see Note 124) in terminal position.

Attic and Ionic. In these two dialects this process was posterior when compared with the change $\bar{a} > \bar{\alpha} > \bar{\varepsilon}$ (cf. Ion.—Att. *σελήνη* < **selasnā* contra *πᾶσα* < *pansa* < **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 900 B.C.[139] It is very difficult, to be true, safely to determine the starting place of the mere tendency to weaken the sound *n* within the secondary medial *-ns-* and the primary terminal *-ns*; nevertheless, this tendency must have been pretty old, and in a way, even if indirectly, it was likely in some way connected with the tendency to liquidate the primary medial *-ns-*, a tendency which is known to us from the first compensatory lengthening (cf. the type *ephansa* > *ἔφηνα*). Anyway, the process of the complete accomplishment of the 2nd lengthening is sure to have had its roots first of all in those dialects that possessed from their earlier stage of development the double $\bar{e}$ and $\bar{o}$, i.e. in the dialects spoken in the neighbourhood of the Corinthian and Saronic Gulfs. In any case, it is rather probable that this whole lengthening process took a pretty long time, and that the first Ionic settlers, for instance, had participated already in Europe in the starting stage of it, and that only their descendants brought it in Asia Minor to its complete termination by accomplishing the total compensatory lengthening—independently, upon the whole, of the other lengthening dialects.

Let us close our analysis of the second lengthening with the following words:

That which is called in this work the second compensatory lengthening was most likely based on a more general linguistic tendency to weaken the consonant *n* if succeeded by *s*. This tendency asserted itself this time within a smaller extent of the Greek-speaking territory than it was the case with the first compensatory lengthening, and the course of its realization was approximately as follows: the process of its accomplishment stopped half way, so to say, in some of the peripheral areas in which there existed but one, universal $\bar{e}$, $\bar{o}$ at that time (Lesbos, and partly Cyrene—maybe also Thera—and Elis), whereas in other dialects, particularly in those which kept preserving their former "double" $\bar{e}$, $\bar{o}$, the process ran its full course until the weakened consonant was altogether liquidated. And there were some Greek dialects that altogether abstained from such compensation tendency (Arcadian, Thessalian, Central Cretan, and Argolic—the first three, at least, representing again peripheral or otherwise isolated dialects), or else they resisted any form of the compensatory liquidation of the consonant *n* at the end of a word only (East Aegean Doric and West as well as East Cretan, that is to say again dialects from the periphery of the Greek-speaking world).

iii) *The 3rd lengthening*

In comparison with the lengthenings analyzed sub i) and sub ii), we can dispose

[139] See pp. 100sqq.

of a much smaller number of dialects, when wishing to demonstrate the "third" compensatory lengthening, i.e. 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 the Ionic of Euboea), further it can be demonstrated in Argos (but not in the rest of Argolis), 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 more general tendency, affecting a great part of the Greek-speaking world, but a minor isogloss comprising just the central and the south-eastern part 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 two affected by this change are the Ionic of Asia Minor and that of the Cyclades.

The chronology of this innovation need not have been the same in all the above--mentioned dialects. It is probable, 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 *γούνατα* would be pointing to a rather early Ionic chronology of this process—i.e. to the 1st half of the 8th century B.C.[140] at the latest—provided, of course, that they do not represent in this poetry a later adaptation of their older metrical equivalents **ksenwios* and **gonwata*. In principle, however, it may be taken for granted that this lengthening was upon the whole younger than the second compensatory lengthening. We find an important indication thereof in the fact that in some of these dialects, at least, the *ē-* and *ō-* outcomes 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 compensatory lengthenings. As we namely stated in Chapter IV,[141] in East Aegean Doric—not including Cyrene—"open" spelling predominates or is at least kept up for a long time for the *ē-* or *ō-* products of the two first compensatory lengthenings, while the *ē-*, *ō-* sounds which are the products of the third compensatory lengthening (and of the contraction) are usually depicted with "close" spelling. We have also already stated that as for the *ē-* sounds, the same difference in spelling is found also in the oldest inscriptions of Central Crete. It was only in the course of time that even for *ē* that arose from the third compensatory lengthening (and also from contraction) "open sign" *H* began here to be used.[142] On the other hand, in the Ionic of Asia Minor and of the Cyclades, in Cyrene, and in Argos the results of all the established[143]

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[140] The definite composition of Homeric poems is now usually chronologically ascribed to the end of the 8th cent. B.C. at the latest. See more on p. 100sq.

[141] See pp. 51sq.

[142] See more about this problem on pp. 55sqq. and 74.

[143] Here we must stress that in Cyrene and in Argolis the second compensatory lengthening did not take place.

lengthenings are in accord: Ionic employs the close $\bar{e}$, $\bar{o}$, while Cyrenaean[144] and Argolic of Argos have inserted the $\bar{e}$- and $\bar{o}$- outcome of the third compensatory lengthening in their universal $\bar{e}$, $\bar{o}$ (in Argos, however, this originally universal $\bar{e}$, $\bar{o}$ was, with certainty soon shifted into the open $\bar{\varrho}$, $\bar{\varrho}$, after the $e+e$, $o+o$ contraction,[145] resulting in $\bar{\varrho}$, $\bar{\varrho}$, had taken place there). It is true, these arguments do not fully exclude the possibility of the third and the second compensatory lengthenings running a parallel course in some of the dialects, yet, this does not appear very probable—at least for the just mentioned Ionic dialects—as the third compensatory lengthening, in contrast to the second, cannot be demonstrated either in Attica or in Euboea, whereas the second lengthening can be. (In no dialect, however, was the third compensatory lengthening as old a phenomenon as to make us believe in accord with Bechtel that in the sphere of the Doric dialects it is to be taken for a product of the pre-Doric substratum.)[146]

As we see it, the real origin of the 3rd lengthening should be very likely ascribed just to the Ionic of Asia Minor and connected with the fact that in this part of the Greek-speaking world the sound *w*, usually depicted in Greek dialects with the letter *F*, was disappearing in the prehistorical era already.[147] (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 liquidation process commenced in other positions,[148] the same compensation tendencies asserted themselves that played such a characteristic part in the preceding two lengthenings.) From Ionia the 3rd compensatory lengthening likely spread both to the Ionic of the Cyclades, and to East Aegean Doric, to Crete, and Argos,[149] 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 just about the beginning of the second quarter of the 1st millennium B.C. At this time namely it was the contraction of the hiatus $e+e$, $o+o$ that took place there, as we are just going to explain in the next paragraph (where the systemic consequences of both the third compensatory lengthening and the $e+e$, $o+o$ contraction will be dealt with together, without implying, however, that both of the mentioned processes must have been simultaneous).

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[144] Nevertheless, it evidently was accomplished also in Cyrenaean after initial hesitation; cf. page 73.

[145] See below sub B (pp. 72sqq.).

[146] Cf. Bechtel, *GD* II 458.

[147] See Thumb–Scherer 261; cf. also Bartoněk, *Vývoj* 143sqq.

[148] Cf. Buck[3] 46sqq.

[149] In Crete and Argos, in contrast to Ionic of Asia Minor and of the Cyclades and to East Aegean Doric, the third compensatory lengthening took place without being accompanied by the early disappearance of *w* (this sound was in these territories undoubtedly pronounced still in the beginning of the Hellenistic Era; see Bartoněk, *Vývoj* 143).

B. The *e*+*e* and *o*+*o* contractions

The contraction of *e*+*e* and *o*+*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 *ē* in the temporal augment, e.g., in *ἤλαυνον*), the terminus post quem would be represented by the time 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. at the latest.[150] Terminus ante quem is altogether undeterminable, for the contraction of the vocalic couples *e*+*e*, *o*+*o* occurs even in the late hiatus 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,[151] although one must admit that owing to the greatly differing age of various components of Homeric poems as well as to the fact that in verse it is the metrical aspect of the words that assumes an important significance, it is hardly possible to base on the analysis of the Homeric language any more definite chronological conclusions concerning the said contraction processes.

The resulting vocalic qualities originating by the contraction of *e*+*e*, or *o*+*o*, fused in most Greek dialects with the phonemes that were typical for the local products of the older types of compensatory lengthening.[152] This process was accomplished almost[153] consistently in those dialects where a second (i.e. close) *ē-*, *ō-* pair was formed as early as in the course of the first compensatory lengthening: the resulting contracted secondary vowels were amalgamated just with this close *ē̯*, *ō̯*. On the other hand, within the dialects preserving an only *ē*, *ō* even after the first compensatory lengthening we meet now with an important deviation.

The said deviation concerns those Greek dialects we discused already in the introductory paragraphs of chapter IV [see p. 50—57], i.e. East Aegean Doric, West Argolic, Pamphylian, and in a special respect also Central Cretan. In East Aegean Doric (probably with the exception of Cyrenaean), in West Argolic and in Pamphylian, the secondary *ē*, *ō* originating by contraction—and in non-Cyrenaean

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[150] See **Bartoněk**, *Vývoj* 167sq.

[151] Cf. **Chantraine**, Grammaire homérique 66sq.

[152] In Thessalian and Lesbian where neither the first nor the second compensatory lengthening took place, it was the primary *ē*, *ō* with which the outcome of the *e*+*e*, *o*+*o* contraction was amalgamated.

[153] Concerning a West Locrian graphical disproportion see pp. 74sqq.

East Aegean Doric by the third compensatory lengthening as well[154]—came into being as an altogether new *ē-* or *ō-* phoneme of close quality, under the influence of which the older, originally universal *ē*, *ō* was shifted there into the open *ę̄*, *ǭ*, so that a quite regular four-grade long-vowel system originated in this way. In the light of the oldest alphabetic inscriptions from Central Crete, the same seems at first sight to concern the local secondary *ē* originating by the contraction of *e*+*e* or through the third compensatory lengthening, but this matter is not so clear and we shall discuss it later more thoroughly.—As to the chronological relation between the *e*+*e*, *o*+*e* contraction and the third compensatory lengthening in East Aegean Doric and in Crete (in Pamphylia the third compensatory lengthening did not occur, while the case of Argos will be dealt with later), we shall probably not be far from the truth when declaring that in both these regions the two processes likely had a more or less parallel course, although it should be admitted that the contraction may even have been the older phenomenon of the two; the chronological precedence of the third compensatory lengthening is, on the other hand, improbable, for it was a phonic change of a very limited extent of occurrence, and alone—i.e. without the help of the contraction results—it hardly would have had the force to accomplish such a significant systemic innovation as the transformation of the three-grade long-vowel system into a four-grade long-vowel system.

If we take into account a certain geographic relationship of all these dialects[155] 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 may see in the above-said 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 *ē*, *ō* would have already become exceptionally overloaded in the dialects in question. In this reconstruction of the long-vowel system the main example to follow was evidently Ionic.

[A special development, however, may be found in Argos, where the graphic practice of the engravers adheres to the open quality of *ē*, *ō* in the case of the Argive third compensatory lengthening, while in the case of the *e*+*e*, *o*+*o* 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 *ē*, *ō* resulting from contraction may have been affected also by the neighbourhood of Attic, Megarian, Corinthian—and, of course, of East Argolic as well—with their only close character of the secondary *ē*, *ō*, while with reference to the third lengthening

[154] Pamphylian, and Argolic outside Argos, have no third compensatory lengthening at all, while Argos presents an open outcome of the latter in contrast to the close outcome of the *e*+*e*, *o*+*o* contraction (see more below on p. 72sq.).

[155] Compare also Thucydides (VII 57) stating that the population of Rhodes had come from Argolis, and the same may be said about a few other East Aegean Doric islands (cf. Thumb–Kieckers 194).

process one could for Argos take into account only the influence of the more distant Ionic and of the dialects of the Aegean Doric, since in Attic, Megarian, Corinthian and East Argolic the third lengthening was an unknown phenomenon. As we see it, this geographically somewhat distant influence of Ionic and Aegean Doric gave rise in Argos most probably only to the 3rd lengthening as such, by just bringing it into this region from the south-east, whereas the qualitative formation of its *e*- and *o*- outcomes was already a pure local Argolic process, not simultaneous, of course, with, and in this case probably prior to, the Argolic contraction of *e*+*e*, *o*+*o*.[156]]

In East Aegean Doric, the main line of development as presented above is, however, broken by Cyrenaean with its "open signs" *H*, *Ω*,[157] replacing both *e*+*e* and *o*+*o*, and the *ē*-, *ō*- products of the third compensatory lengthening. According to Bechtel[158] the Cyrenaean situation was due to the influence of later Cretan immigrators, who settled down about 570 B.C. in Cyrene, founded by the Therans in the middle of the 7th cent. B.C.;[159] Thumb,[160] on the other hand, ascribes this phenomenon to an older phase of development, when in his opinion the secondary *ē*, *ō* was still of a non-close quality. The first explanation is hardly plausible, for, as we know, it is just the close spelling in the oldest Cretan inscriptions, originating as early as before 570 B.C., that can be, on the contrary, demonstrated for the *ē*- sound which was the outcome either of contraction or of the third compensatory lengthening. The second explanation would be more acceptable, but the older phase alluded to by Thumb should concern rather the development of the whole long-vowel system than the development of a uniformly conceived secondary *ē*, *ō*. The best solution might be namely found in the hypothesis suggesting that about 640 B.C., when the Theran colonists founded Cyrene, Thera was perhaps not long past the realization of both the *e*+*e*, *o*+*o* contraction and the third compensatory lengthening, the long *ē*- and *ō*- outcomes of these changes having 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 these outcomes very likely in their hitherto existing universal *ē*, *ō*—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 the latter took place there. In contrast to Cyrene,

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[156] We feel induced to imagine the development of things in Argos as follows: the *ē*- and *ō*- results of the third compensatory lengthening were absorbed directly after their origination by the hitherto existing universal *ē*, *ō*, the latter getting later shifted to the open *ę̄*, *ǭ* under the pressure of the new *ē*, *ō* originating from *e*+*e*, *o*+*o*.—Cf., however, also the reservation on page 139.

[157] As a matter of fact, we likely have to deal with the universal *ē*, *ō* of the mid quality. The situation in Cyrenaean probably corresponded at first to the Argive situation, the only difference consisting in the fact that in Cyrene also the *ē*, *ō* originating from *e*+*e*, *o*+*o* got later absorbed by the universal *ē*, *ō*, so that here the universal *ē*, *ō* need not have shifted to the open position.

[158] Cf. Bechtel, *GD* II 553.

[159] See Herodotus IV 159sq.

[160] Cf. Thumb—Kieckers 318sq.

the mother-island Thera as well as the rest of East Aegean Doric were after 640 B.C. most likely the scene of a quite contrary process: under the increasing influence of the Ionic dialects a new couple of $\bar{e}$-, $\bar{o}$- 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.

A quite analogical explanation can be applied also to Central Cretan. To be true, the two $\bar{e}$- qualities are really documented in the oldest inscriptions of Central Crete[161]—in contrast to Cyrenaean, where no such documentation has been found so far—, but the existence of the double $\bar{e}$ in these Cretan inscriptions was probably only a graphic expression of an original, phonemically irrelevant phonetic delimitation between the primary $\bar{e}$, $\bar{o}$ and the qualitatively equal outcomes of the first two compensatory lengthenings, on the one hand, and the results of the third compensatory lengthening as well as of the $e+e$, $o+o$ contraction, on the other hand. With the above-mentioned situation preserved in Cyrene directly correspond just those Cretan conditions that can be demonstrated in Central Crete as late as in the 5th and 4th cent. B.C., when the Central Cretan $\bar{e}$-, $\bar{o}$- products of the third lengthening and of the $e+e$, $o+o$ contractions became already an entirely organic part of the local universal $\bar{e}$, $\bar{o}$, considered from any point of view. This explanation, which will do both for Cyrenaean and for Central Cretan, helps us to do without Thumb's theory,[162] according to which the Cretan $\bar{e}$-, $\bar{o}$- sounds that were the products 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 cent. B.C.]; *H*, *O* [V cent.]; *H*, *Ω* [IV cent.; after the adoption of the Ionic alphabet]; *E*, *O* side by side with *H*, *Ω* [III cent.]) being according to this author to be accounted for by purely graphical factors.[163]

The special Cretan situation we have just discussed, has its certain, even if in some respect a contrasting[164] analogy in one of the Greek dialects, for which the existence of two $\bar{e}$-, $\bar{o}$- qualities was typical since the times of the operation of the first compensatory lengthening, i.e. in the dialect of West Locris. Here we can namely demonstrate in comparatively old—but not the oldest—inscriptions the use of the

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[161] See pp. 55sqq.

[162] See Thumb—Kieckers 151; cf. also Brause, *Lautlehre* 128, and Bechtel, *GD* II 681.

[163] According to Thumb, the said variability of graphic reproduction may be explained by the theory that in the 7th—6th cent. B.C.—and later probably again from the 3rd cent. B.C. onward—more respect was paid to the difference in the quality of the vowels, while the reproduction of their quantity was neglected (the sign *E* reproduced at those times, according to him, both the short $\check{e}$, whose quality was in Thumb's opinion close, and the long close $\bar{e}$ that originated through the compensatory lengthening or contraction), whereas in the long interim space of time the quantity was the most decisive factor (the sign *E*, he argues, was in this period used just to reproduce the short *e*).—Concerning the graphical practice exercised in Crete from the 3rd cent. B.C., see esp. our exposition presented on pp. 56sq. of this monograph.

[164] See Note 168.

spelling *OY* for the first and the second compensatory lengthenings of the vowel *ō*, the said spelling *OY* indicating the close quality of the resulting *ō* (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 inscriptions[165] by the letter *O*, which is supposed to indicate an open *ǭ* in them. According to Thumb[166] and Bechtel we are to see in this fact again traces of the original non-close pronunciation of every secondary *ē*, *ō* in the Greek dialects. But taking into account both, the considerable isolation of this West Locrian 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 *E* and *O* to reproduce not only the *primary*, but also any *secondary ē*, *ō* seems to have just begun at the time of these inscriptions to make way—in the *latter* case—to the later Ionic spelling *EI*, *OY*,[167] we think more probable the view that even this situation was an outward expression of graphic-phonetic perplexity of the West Locrian engravers.[168] Neither they were likely able to make up their minds as to the quality of the new long *ō*, only recently originated from *o*+*o* and having not yet acquired a definite phonemic character, and while trying to differentiate it in graphic reproduction, they declined, at least in the beginning, to reproduce it with the Ionic spelling *OY*. To be sure, this hypothesis fails to explain the fact, why the same inscriptions did not reproduce also the contracted *ē* with the sign *E*.[169]

Consequently, our attempt at the solution of the complicated problem of the "double" *ē*, *ō* in Greek presupposes a certain grouping of Greek dialects according to the co-existing number of the *ē*-, *ō*- phonemes as early as in connection with the accomplishment of the oldest compensatory lengthening. The *ē*-, *ō*- results of the first lengthening displayed apparently different qualities when arising, according to the dialect in question. In some they got identified with the primary *ē*, *ō* from the

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[165] Compare in Schw. 362 [Oiantheia, V pars pr.] the forms *Ναυπάκτō*$_8$, *δάμō*$_4$ (with *O* for the contracted *o*+*o*) with the expressions *τοὺς ἐπι⌜οίϙους*$_5$, *Λοϙροὶς τοὺς Ηυποκναμιδίους*$_{20}$ (with *OY* for *ō* arisen through the first compensatory lengthening).

[166] Cf. Thumb—Kieckers 287 and Bechtel, *GD* II 14sq.

[167] In the inscription Schw. 363 [Oiantheia, V pars pr.], which is, upon the whole, contempora with Schw. 362, we meet with the sign *O* still employed with consistence in both cases; cf. *τō*$_{16}$ (2nd lengthening) with *ξένō*$_{12}$ (contraction), and see also *hάγēν*$_1$ (with *E* for *e*+*e*).

[168] The main difference between the Cretan process and that in West Locris could be outlined as follows: In early Crete the possibility of a new *ē* originating in connection with the accomplishment of the equivocalic contraction was just appearing on the horizon to be apparently rejected in the end, whereas in West Locris there surely existed, before the accomplishment of the equivocalic contraction already, a double *ō* (a primary one and a secondary one originating either through the first or the second compensatory lengthening), so that here the contracted *ō* originated from *o*+*o* fused with the secondary close *ǭ* after a transition stage of perplexity, which we could observe in the just quoted inscriptions.

[169] Both the *ē*-results of the two older types of compensatory lengthening (the third compensatory lengthening did not take place in West Locrian), and the local outcome of the contraction of *e*+*e* are reproduced in the inscription Schw 362 regularly with spelling *EI*.

phonemic point of view (evidently in Arcadian—and perhaps also in Cypriot—, in Laconian, Elean, Cretan, Boeotian, Pamphylian, West Argolic and in East Aegean Doric), the quite precise quality of this universal, approximately mid $\bar{e}$, $\bar{o}$ 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, the origination of these close $\bar{\varrho}$-, $\bar{\varrho}$- sounds bringing about rather immediately the shifting of the local hitherto universal mid $\bar{e}$, $\bar{o}$ into the position of open $\bar{\varepsilon}$, $\bar{\varrho}$; the said situation existed most likely in the rest of the Greek dialects, with the exception of Thessalian and Lesbian, in which the first compensatory lengthening did not take place. The same process reoccurred afterwards in the later types of the compensatory lengthening and also in the course of the $e+e$, $o+o$ contraction, even though the quality of the resulting long $\bar{e}$-, $\bar{o}$- vowels was influenced in each type of the above-mentioned phonic changes first of all by the degree of the functional loading of the local $\bar{e}$- and $\bar{o}$- phonemes.[170] This was most likely the cause giving later rise to the close $\bar{\varrho}$, $\bar{\varrho}$, produced either both by contraction and by the third lengthening, or at least by contraction only, in East Aegean Doric (Cyrene apparently excepting), Pamphylian, West Argolic (but probably never in full extent in Central Cretan)—in opposition to the open $\bar{\varepsilon}$, $\bar{\varrho}$, originating here[171] from both types of the older compensatory lengthening.[172] As to these dialects, one may, thus, adhere to Vega's opinion, who believed in a special, somewhat more close outcome of the $e+e$, $o+o$ contraction,[173] and—Argos excepting—even of the third compensatory lengthening. In the other dialects, however, one should assume that the resulting vowel of the $\bar{e}$-, $\bar{o}$- shade simply found its place in the already existing long-vowel system.

The above hypothesis of ours 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.

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[170] See more on pp. 85sqq.

[171] In West Argolic, of course, no second lengthening took place at all, the situation in the Argolic of Argos—with its open outcome of the third lengthening—being different in this detail only.

[172] See more on pp. 138sqq.

[173] This phenomenon, however, need not be explained—in our opinion—by the hypothesis assuming some close quality of the coexisting short $\check{e}$, $\check{o}$ as Lasso de la Vega argues. See also Note 79.