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THE DEVELOPMENT OF THE ATTIC-IONIC
LONG-VOWEL SYSTEM

M. S. Ruipérez tried several years ago in his article *Esquisse d'une histoire du vocalisme grec*, Word 12 (1956), 67—81, to analyze phonologically the development of the vocal systems in Attic and Boeotian, and thus he laid foundations for a new, diachronic-phonological method of treating dialect phonology, a method hitherto — in such an extent — not adopted in the realm of classical languages. In spite of some criticism¹ — only partly justified — of this remarkable Ruipérez's method his attempt has already found firm footing in the history of the research into ancient Greek phonology, and certainly deserves to be followed also with respect to other areas of Greek dialects. We ourselves have already tried to do so in a couple of studies, one dealing with the Boeotian-Thessalian area² and the other with the Elean area³. Now we are presenting a third contribution, consisting in an attempt at a diachronic-phonological analysis of the development of the long-vowel system in the whole Attic-Ionic group of dialects. Compared to the above-mentioned article by Ruipérez, our study is, therefore, going to deal with also the non-Attic dialects of the Attic-Ionic group; on the other hand, in contrast to Ruipérez again, we shall abstain from discussing the systemic aspect of the short-vowel development—we have done so in the two preceding studies as well—, yet we shall include in our systemic long-vowel schemes also the so-called monophonematic diphthongs, in addition to Ruipérez's list of long vocalic phonemes and in accord again with both of our former studies. (Cf. in this respect also SPFFBU E 5 (1960), 85-88⁴, where we tried to explain why the diphthongs *ai*, *ei*, *oi*, *ou* may be perhaps taken for monophonematic in several of the Greek dialects at least.)

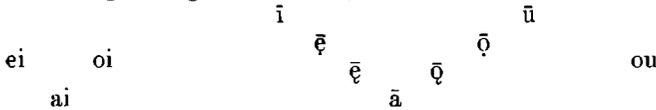
In our opinion, therefore, single phases in the development of the Attic-Ionic long-vowel system presented approximately the following picture:

1. The long-vowel system, as it existed in the Attic-Ionic dialects before their later historical dismemberment, which occurred about the boundary between the second and the first millennia B. C., very likely may be reproduced by the following scheme (including the four diphthongs, which either were monophonematic at that time already, or were likely to assume this character in Attic-Ionic earlier or later):

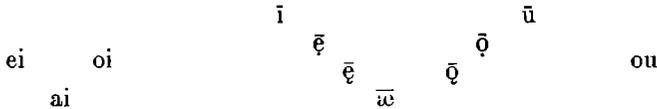
			ī		ū		
ei		oi		ē	ō		ou
	ai			ā			

2. At the boundary between the 2nd and the 1st millennia B. C., subsequent to the first compensatory lengthening⁵ (the type *esmi* > *ēmi*), the whole Attic-Ionic area witnessed the transformation of the hitherto existing three-grade triangular

system into a four-grade triangular system with 7 long monophthongs (implying naturally the four diphthongs in addition):



3. Due to substratum influence of non-Greek languages spoken in Asia Minor⁶ and maybe partly also in connection with considerable overloading in the back long-vowel row (Ruipérez believes the 2nd factor to be the primary), first in Ionia but soon after also in the other Attic-Ionic areas, a shift of the phoneme \bar{a} to the front position of \bar{e} took place sometime about 900 B. C.,⁷ this occurrence giving rise to a special quadrangular system with the phoneme \bar{e} in the front row:⁸



This systemic scheme could, of course, not be applied to Attic, had there the original Greek $\bar{r}\bar{a}$, $\bar{e}\bar{a}$, $\bar{i}\bar{a}$ never been transformed into $\bar{r}\bar{e}$, $\bar{e}\bar{e}$, $\bar{i}\bar{e}$, i. e. if the supporters of the older view were right, holding the Attic $\bar{r}\bar{a}$, $\bar{e}\bar{a}$, $\bar{i}\bar{a}$ of the Classical Era (with \bar{a} corresponding either to the proto-Greek \bar{a} or to that which originated through the 1st compensatory lengthening) to be Attic original qualities and not results of the reverse change of $\bar{r}\bar{e}$, $\bar{e}\bar{e}$, $\bar{i}\bar{e}$ into $\bar{r}\bar{a}$, $\bar{e}\bar{a}$, $\bar{i}\bar{a}$. Yet, the more recent theory of the reverse shift appears to be more convincing even from the structural point of view (see Ruipérez, Word 12, 71sq.) and the contemporary research-workers usually prefer it to the older hypothesis.

Of greater importance is, however, the question whether the phonic quality \bar{e} was sufficiently fixed in all the Attic-Ionic dialects, for a space of time at least, to assert itself in the history of their long-vowel system as an independent phoneme, not fusing immediately with the quality \bar{e} . The situation was pretty clear in this respect in Naxos, Keos, and Amorgos, where the local quite special differentiation of the spellings H:E, documented even in the 5th cent. B. C., speaks for a long-lasting phonematic fixation of the quality \bar{e} .⁹

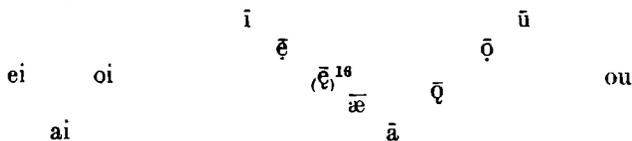
Nevertheless, in Attic as well, when adhering to the reverse shift theory, you have to take a complete phonematic independence of this quality for granted for a limited space of time at least. It is generally known today that there exist in the Attic dialect certain secondary differences between the extent of occurrence of the signs A (= \bar{a}) and H after r and their occurrence after e and i —this holding good also in reference to quite identical word types [cf. e. g. the Attic $\pi\lambda\eta\rho\eta$ < * $\text{pl}\bar{e}r(e)s\bar{a}$, $\kappa\acute{o}\rho\eta$ < * $\text{korw}\bar{a}$, on the one hand, and the Attic $\delta\upsilon\mu\bar{a}$ < * $\text{hugr}\bar{e}(s)\bar{a}$, $\nu\acute{e}\bar{a}$ < * $\text{new}\bar{a}$, on the other hand].¹⁰ This fact led the adherents of the reverse shift theory to the conclusion that reverse shifting of \bar{e} to \bar{a} after r somewhat preceded the same process after the phones e , i , the contrasts $\pi\lambda\eta\rho\eta/\delta\upsilon\mu\bar{a}$ and $\kappa\acute{o}\rho\eta/\nu\acute{e}\bar{a}$ indicating that the liquidation of the phoneme w and the contraction of $e + a$ into \bar{e} must be interposed between the occurrence of the change $\bar{r}\bar{e} > \bar{r}\bar{a}$ and that of $\bar{e}\bar{e} > \bar{e}\bar{a}$, $\bar{i}\bar{e} > \bar{i}\bar{a}$. If this actually took place—and the advocates of the opposite theory are hardly capable of offering a more convincing explanation of these differences¹¹—the quality \bar{e} originating from \bar{a} must have existed in Attic long enough to be ascribed without hesitation the character of an independent phoneme.

On the other hand, we do not hold quite probable the preservation of this quality in Attic as late as the 5/4 centuries B. C., this being e. g. *Schwyzler's* and *Lasso de la Vega's* view.¹² We only assume that this \bar{e} definitely outlived the origin of the new Attic \bar{a} , which was the product of the second compensatory lengthening (the type *tans* > *tās*) and which will be the subject of a more detailed discussion further on, sub 4. It namely seems probable that either the Attic $\bar{r}\bar{e}$, $\bar{e}\bar{e}$, $\bar{i}\bar{e}$ was transformed into $\bar{r}\bar{a}$, $\bar{e}\bar{a}$, $\bar{i}\bar{a}$ only after the origin of this new \bar{a} — this being the case, the above-mentioned phonic combinations still retained their phonic value \bar{e} when this new „compensatory“ \bar{a} originated — or else if the Attic $\bar{r}\bar{e}$, $\bar{e}\bar{e}$, $\bar{i}\bar{e}$ got shifted to $\bar{r}\bar{a}$, $\bar{e}\bar{a}$, $\bar{i}\bar{a}$ before the origin of the „second compensatory“ \bar{a} , then the phone \bar{a} could not at first but assume in the combinations $\bar{r}\bar{a}$, $\bar{e}\bar{a}$, $\bar{i}\bar{a}$ the character of a mere combinatory variant of the phoneme \bar{e} — this again implying the assumption that this \bar{e} alone could hardly have fused entirely with the quality \bar{e} prior to the accomplishment of the second compensatory lengthening, withdrawing thus suddenly the necessary phonematic support from its combinatory variant \bar{a} . Yet, if this fusing had taken place in Attic so early, the \bar{a} in $\bar{r}\bar{a}$, $\bar{e}\bar{a}$, $\bar{i}\bar{a}$ would have had to become an independent phoneme, this surely being with regards to systemic economy quite incompatible with the not very high functional loading of this phonic phenomenon (whose occurrence was — in addition — restricted to a special phonic environment) — all the more since in contrast to this the functional loading of the phoneme \bar{e} , which had been high enough even so, would have had in this case to increase too enormously after taking over the quality \bar{e} . It appears therefore probable that suitable systemic conditions for the infusion of the quality \bar{e} into hitherto existing \bar{e} did not in fact develop in Attic until the second compensatory lengthening produced the new \bar{a} , whose frequency of occurrence, to be sure, was not too high either, but which could not turn into a combinatory variant of any hitherto existing phone, as it was not dependent on any phonic environment; so it could in the given situation perform only the function of a real phonematic unit, being thus also capable of adopting either at once or later the quality \bar{a} from $\bar{r}\bar{a}$, $\bar{e}\bar{a}$, $\bar{i}\bar{a}$ and relieving in this way the phoneme \bar{e} of this combinatory ballast.

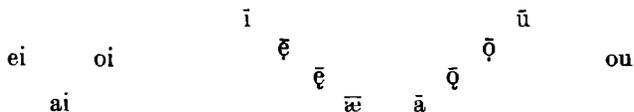
To what extent that which has been said in the last paragraph about Attica can be applied also to Euboea and specially to Ionia is in the meantime beyond our estimation.¹³ Of course, the geographical spread of the change $\bar{a} > \bar{e} > \bar{e}$ from the east to the west taken for granted,¹⁴ one may assume that at least in Ionia the whole of this phonic development may have been accomplished so quickly as to enable the substitute for the proto-Greek \bar{a} (and for the \bar{a} produced by the 1st compensatory lengthening) to take the position of \bar{e} as early as before the new \bar{a} originated through the 2nd compensatory lengthening, yes, it may even be that the \bar{e} -stage ran its course here without any phonematic fixation of the quality \bar{e} whatsoever. This would mean, to be sure, that either the duration of the systemic phase described sub 3 may have been at least in Ionia shorter than in the other Attic-Ionic areas, or that this systemic phase, owing to the merely transient character of the quality \bar{e} , may not have occurred — purely phonemically taken — at all. In either case this Ionic situation would have finally resulted in an extra transition phase with 6 monophthongs, offering the following scheme:

			ī			ū	
ei	oi		ē		ē		ou
			ē	ō			
	ai						

4. At some time in the 9th cent. B. C. a new \bar{a} originated in the entire Attic-Ionic area as the result of the 2nd compensatory lengthening, the same quality fusing in Attic sooner or later (cf. our discussion sub 3) also with the \bar{a} which originated through the reverse shift $r\bar{a}$, $e\bar{a}$, $i\bar{a}$ > $r\bar{a}$, $e\bar{a}$, $i\bar{a}$. Thus came into being at least in one part of the Attic-Ionic area¹⁵ a system of 8 monophthongs, with the front vowels predominating, as it is presented by Ruipérez, Word 12, 70. Reproduced with the amplification of the four accompanying monophonematic diphthongs this system renders the following scheme:



Yet, it must be stressed that this long-vowel system could after all have even the character of a four-grade quadrangular system, provided, to be sure, that the new \bar{a} was inserted in the back vocal row; this being the case, the systemic scheme would be different:



The advantage of this quadrangular scheme would lie in the fact that the front long-vowel axis would be less overloaded than in the corresponding Ruipérez's triangular scheme (the latter, however, may be said to conform somewhat better to the physiological character of the oral cavity)¹⁷ and besides the quadrangular scheme need not likely assume the shift of the hitherto existing \bar{e} (i. e. the then available substitute for primary \bar{e}) to the position of the medial \bar{e} , which assumption seems to be a rather necessary implication of Ruipérez's triangular grouping.¹⁸ On the other hand, however, we must admit that in the whole of the Attic-Ionic area we do not find anywhere the least trace of a back quality of the secondary \bar{a} produced by the second compensatory lengthening.

To round up the discussion of the systemic phase No. 4 the following reservation must be uttered: whether one or the other systemic modification—either of them respecting the quality \bar{a} as an independent phoneme—could make itself valid only in those Attic-Ionic dialects which preserved the quality \bar{a} as an independent phoneme even after the second compensatory lengthening. When closing our discussion of the systemic phase No. 3 we have namely pointed out that such a long existence of the quality \bar{a} is at least in Ionia not quite certain, which implies after all the possibility of phase No. 4 having been altogether skipped in the Ionic of Asia Minor. This granted, the assumed "Ionia transition phase" of 6 monophthongs, which we have mentioned at the close of our analysis sub 3, would have been immediately followed by phase No. 5. Nevertheless, the above-mentioned reservation — just as the analogical reservation at the close of our discussion sub 3—wants to be just a marginal remark without claiming any outstanding significance. If we namely laid a too great stress on it we should run the risk of overestimating the differentiation between the single Attic-Ionic dialects (specially when compared to the other Greek dialects) by pointing out differences between at least the Ionic of Asia Minor, on the one hand,

and the other Attic-Ionic dialects, on the other hand, even in situations when they cannot be quite safely demonstrated.

5. The system analyzed sub 4, no matter whether triangular or quadrangular and irrespective of the extent of its spread over the Attic-Ionic territory, clearly displayed the tendency to undergo further transformation into a triangular four-grade system, similar to that which originated in the Attic-Ionic area already after the accomplishment of the first compensatory lengthening, i. e. again into a system of seven monophthongs:

		ī		ū	
ei	oi	ē		ō	ou
	ai	ē	ā	ō	

This long-vowel system was very likely quite familiar at the time of the first Attic-Ionic inscriptional documents (i. e. at the end of the 8th and on the threshold of the 7th cent. B. C.) to the inhabitants of Attica, Euboea, Ionia, and maybe also of some of the Cyclades,¹⁹ the possibility having been indicated in our study several times before that Ionia may have been the scene of this development substantially earlier than the other Attic-Ionic regions.

As to Naxos, Keos, and Amorgos, where the phonic difference between the substitute for the proto-Greek \bar{a} (and for the \bar{a} produced by the first compensatory lengthening) and between the substitute for the primary Greek \bar{e} can be still demonstrated as late as in the 5th cent. B. C., we have to assume that at the time when in the other regions of the Attic-Ionic area the systemic phase No. 5 was in progress, in these parts of the Cyclades the systemic phase No. 4 was still prevailing.²⁰ This condition, documented in those three islands, is the only instance known to us speaking in favour of the hypothesis of the quadrangular modification of the systemic stage No. 4, for the outnumbering of the \bar{o} -phonemes by the \bar{e} -/ \bar{a} -phonemes lasted here uninterruptedly from the 8th to the 5th cent. B. C., and this fact implies the possibility of the phoneme \bar{a} being there really ousted to the back vocal row all the time.

6. a) The formation of the long-vowel system was very strongly affected probably in the 7th cent. B. C.—or in the 6th cent. at the latest—in most of the Attic-Ionic territory by the change $\check{u} > \check{u}^{21}$ (in our opinion even this change was primarily a substratum product of the languages spoken in Asia Minor,²² while the overloading of the back long-vowel row, which Ruipérez holds to be the main cause of this change, was according to our view only a secondary factor). To be sure, the accomplishment of this change neither reduced nor increased the number of the systemic members, nevertheless the system itself received a new character, for it was for the first time in the history of the Greek language that a phoneme of central articulation position assumed the grade of minimal opening. Thus the following long-vowel scheme originated:

		ī		ū	
ei	oi	ē		ō	ou
	ai	ē	ā	ō	

This systemic stage was reached, of course, only in Attic and the Ionic of Asia Minor—and, to a limited extent, perhaps also in the Cyclades (Naxos, Keos, Amorgos excepting). In contrast to it, in Euboea the systemic stage No. 5 still held its ground,

since we believe that in this Attic-Ionic dialect the change $\check{u} > \check{\check{u}}$ perhaps never occurred at all.²³ —As to the Cyclades, the change $\check{u} > \check{\check{u}}$ may really have been accomplished there by that time, sure enough (even though positive documents are absent), yet in Naxos, Keos, and Amorgos, at any rate, there still existed the quality \bar{e} alongside the open \bar{e} . It seems, therefore, that in these three islands a very complicated long-vowel system sprung up subsequent to the accomplishment of the change $\check{u} > \check{\check{u}}$, containing, on the one hand, still the phoneme \bar{e} and having the shift of \bar{u} into $\check{\check{u}}$ accomplished already, on the other hand. This system may be depicted in two ways; it depends on which of the two variants mentioned sub 4 is considered to be its basis. The two schemes would look as follows:

either —

		ī		ū			
		ē		•		ō	
ei	oi		(ē)	ā	ō		ou
	ai			ā			

or—

		ī		ū			
		ē				ō	
ei	oi		ē	ā	ō		ou
	ai		æ	ā			

b) Now, the question remains to be answered whether the schemes which we have so far presented sub 6a really reproduce actual situations in the history of the Attic-Ionic long-vowel systems and whether their significance for the treatment of our problems is not merely theoretical. We namely cannot fail to see that the oldest known Attic inscription (Schw. DGE App.²⁴ I 1, ca. 725) already bears the form $\tau\acute{o}\tau\omicron\nu = \tau\acute{o}\tau\omicron\nu$, which may be used as a "direct" argument²⁵ in favour of the view that the monophthongization of the diphthong ou into \bar{o} was accomplished in Attic as early as towards the end of the 8th cent. B. C. (similar forms of the demonstrative pronoun $\omicron\bar{\nu}\tau\omicron\varsigma$ may be found later in the Attic-Ionic area more often).²⁶ An analogical argument, even if „indirect“ in this case, speaking in favour of an early monophthongization of the diphthong ei into \bar{e} may be seen in numerous documents of the spelling $EIMI$ in place of the older spelling EMI (= $\epsilon\iota\mu\acute{\iota}$ < * $esmi$), found in Attic-Ionic inscriptions from as early as the middle of the 7th cent. B. C.²⁷ Of importance, however, are also some other instances of early documentation of the two monophthongizations, such as the Attic $\acute{\alpha}\rho\chi\bar{\epsilon} = \acute{\alpha}\rho\chi\epsilon\iota$ SEG 3, 56 (VI ex.), or $\Lambda\epsilon\tau\omicron\upsilon\bar{\varsigma}$ < $\omicron\jmath\omicron\varsigma$ (VI ex.)²⁸. If thus the first signs of the monophthongization of the diphthongs ei , ou are of such early date in the Attic-Ionic dialects, the systemic schemes we have presented sub 6a may really be of purely theoretical value: we must count with the possibility that in Attica, Ionia, and the Cyclades the diphthongs ei , ou were likely being monophthongized into \bar{e} , \bar{o} either prior to the change $\bar{u} > \check{\check{u}}$ or more or less simultaneously with it. It is true that *Schwyzler*, GG I 233, finds in his chronological table for these monophthongization changes a date as late as the 5th cent. B. C., yet, the above-quoted documents considered, this term appears to be far too postdated, and besides we must not forget that with reference to the ou -monophthongization *Schwyzler*, l. c., joins into one both the monophthongization $ou > \bar{o}$ and a further shift of this \bar{o} into $\check{\check{u}}$, this latter shift not

having probably been fully accomplished even about 400 B. C. (cf. below page 80 sq.). On the other hand, we must admit that the argumentative force of the Attic $\tau\acute{o}\tau\omicron\nu$ does not seem to us sufficiently convincing, for the possibility of this form representing some very old variant of the more familiar $\tau\omicron\upsilon\tau\omicron\nu$ cannot be excluded, the original ou perhaps not underlying there the spelling O at all.²⁹ Nevertheless, even if we did not take this expression into account, we could not bring down the upper boundary for the monophthongization process of the diphthongs ei , ou below the middle of the 7th cent. B. C. (Anyhow, we have to count also with the possibility of the chronological relation of the change $\bar{u} > \bar{u}$ to the monophthongization process of the diphthongs ei , ou being different in the different Attic-Ionic dialects.)

In this situation, when it is really very hard to find an entirely certain solution, we cannot but lay stress at least on the following: If the monophthongization of $ei > \bar{e}$, $ou > \bar{o}$ was accomplished in Attica, Ionia, and the Cyclades subsequently to the accomplishment of the change $\bar{u} > \bar{u}$, then the two systemic schemes sub 5 were really first transformed into systemic schemes sub 6a. After the liquidation of the diphthongs ei , ou , to be sure, further simplification of these systemic schemes took place, with the result that the total number of phonemes got reduced by the two accessory monophonematic diphthongs ei and ou , the monophthongal nucleus of each of the respective system variants remaining unchanged. Thus there sprang up in the end — certainly about 500 B. C. at the latest—in the Attic-Ionic area (Euboea excepting) the following system variants:

— in Attica, Ionia (and very likely also in the Cyclades except Naxos, Keos, and Amorgos)—

		ī		ū	
	oi	ē		ō	
		ē		ō	
ai			ā		

— in Keos, Naxos, and Amorgos either

		ī		ū	
	oi	ē		ō	
		(ē)		ō	
		ω			
ai			ā		

or more probably

		ī		ū	
	oi	ē		ō	
		ē		ō	
ai			ā	ā	

If, however, in Attica, Ionia, and also in the Cyclades the monophthongization process $ei > \bar{e}$, $ou > \bar{o}$ preceded the change $\bar{u} > \bar{u}$, the transformation of the systemic schemes sub 5 progressed in these areas as follows: first the total number of phonemes got reduced to nine due to the disappearance of the phonemes ei , ou , and it was not until then that the monophthongal nucleus of each of the respective system variants got transformed by the shift of the phoneme \bar{u} to the central position of \bar{u} . The end result, manifested about 500 B. C., was, therefore, identical with that of the former assumption, even though it was attained by the reverse sequence of the two changes.

As to Euboea, it was the scene of one of the two changes only, i. e. the monophthongization process *ei* > *ē*, *ou* > *ō*, so that the development in this area was quite undisputable, its result being about 500 B. C. at the latest a long-vowel system, which comprised, to be sure, also only two monophonematic diphthongs, but *ū* in it failed to shift to *ū̄*:

		ī			ū̄
	oi	ē		ō	
		ē		ō	
ai			ā		

7. The next change of the long-vowel system, having a rather limited geographic extent, occurred towards the end of the 5th cent. B. C., when in Naxos, Keos, and Amorgos the hitherto existing system, containing still the phoneme *æ*, was finally transformed into a system quite identical with that which had been prevailing at least since 500 B. C. in Attica, Ionia, and may be also in the remaining area of the Cyclades, i. e. with the respective systemic stage No. 6b. This phonological event resulted thus at the end of the 5th cent. B. C. at the latest in a total equalization of the long-vowel systems throughout the whole Attic-Ionic territory outside Euboea, and even prospective preservation of this condition may be taken for granted there.

This unified long-vowel system of Attic and of the Ionic of Asia Minor and of the Cyclades likely underwent soon after—in some of the Attic-Ionic dialects it may have occurred even earlier, but it is difficult to prove it—another transformation: the hitherto closed *ō* was shifted to the position of the long *ū̄*, which had been free in these dialects since the shift of the old *ū* to *ū̄*. A quite precise date of the origination of this new *ū̄* cannot be fixed. The spelling OY alone, which began to be used sporadically as early as from the end of the 6th cent. B. C. in the Attic-Ionic area to reproduce also the monophthong that resulted from the compensatory lengthening of the phone *ō* or from the contraction of *o + o*, does not betray about the quality of the sound underlying this sign anything more except the assumption that at the time when this spelling began to assume the said function,³⁰ the then existing substitute for the proto-Greek diphthong *ou* already formed with the said “compensatory” or “contracted” monophthong one single phoneme, without directly implying whether the phoneme had still the quality *ō*, or that of *ū̄* already. Yes, even the fact that in Boeotian the adoption of the “Ionic” alphabet (which occurred shortly before 350 B. C. through Attic mediation) introduced the use of the spelling OY also for the reproduction of the original *ū̄*,³¹ cannot be taken for a quite safe proof of the *u*-pronunciation of the phoneme then underlying the Attic spelling OY. The inhabitants of Boeotia would have namely likely adopted the “Ionic” spelling OY for the reproduction of their old *ū̄*—which was going to retain its *u*-pronunciation in Boeotia even prospectively—also in the case if this OY had at that time still maintained in Attica its value of the closed *ō*: even so the “Ionic” spelling OY would have been more suitable to express the pronunciation of the Boeotian *ū̄* than the “Ionic” spelling Y, which had probably been identified in Attica with the value *ū̄* for quite a long time and thus was not suitable to perform in Boeotia after the local accomplishment of the “Ionic” orthographic reform the reproduction of the old *ū̄*.—Nevertheless, what we have just said about Boeotian indicates only that the Boeotian adoption of the Attic-Ionic spelling OY for the old local *ū̄* does not supply us with an *absolutely safe terminus ante quem* for the final accomplishment of the Attic-Ionic change *ō* > *ū̄*, and, to be true, there

still exists the possibility that the change actually *may have occurred*, in some of the Attic-Ionic regions at least, prior to the Boeotian adoption of the „Ionic“ orthography. We have already said that in Ionia, Attica, and the Cyclades in any case the position of the long \bar{u} was free from the 7th, or at the latest, the 6th cent. B. C. (since the local realization of the change $\bar{u} > \bar{u}$), and the occurrence of the two \bar{o} -phonemes, \bar{o} and \bar{o} , being comparatively dense in the back row, it is quite probable that the closed \bar{o} began to *display the tendency* towards shifting to \bar{u} immediately after the accomplishment of the change $\bar{u} > \bar{u}$; thus it is possible after all that even the process of accomplishing the shift \bar{o} to \bar{u} may have come to an end in some of these areas at least even rather long before the 4th cent. B. C., especially if some westward spread of the change $\bar{u} > \bar{u}$ (coming from Ionia) were taken for granted. On the other hand, however, we have also to take into account the circumstance that there existed in the respective dialects on the back long-vowel axis after the accomplishment of the change $\bar{u} > \bar{u}$ only two non- \bar{a} phonemes (\bar{o} , \bar{o}) and that their articulation may have been affected by their front-row counterparts (\bar{e} , \bar{e}) to such an extent that the *definite occupation* of the terminal articulation position of \bar{u} may have taken place quite a long time after its evacuation through the change $\bar{u} > \bar{u}$.

Thus there existed in Attica, Ionia, and the Cyclades—may be already before 400 B. C., but some 50 years later more certainly—a new system, that was comparatively well adapted to the physiological-articulation capacity of the oral cavity:

	ī	ū	ū
	ē	ē	ō ³²
oi			
ai	ā		

In contrast to it, Euboea kept preserving its former system, discussed sub 5, because the Euboean closed \bar{o} , even though it was since the end of 5th cent. B. C. reproduced consistently with the spelling OY, obviously stayed on in the position of \bar{o} , not changing into \bar{u} . This may be seen from the fact that the graphic difference between OY (used for the original *ou* as well as for the monophthong produced by the compensatory lengthening of the phone \bar{o} or by the contraction $o + o$) and between Y (used for the original \bar{u}) was quite consistently observed also in Euboean inscriptions of the coming centuries. Even when in the course of time this scheme likely succumbed under the influence of the Hellenistic Koine to various other changes, it is possible that in some Euboean regions at least the speakers of the pure Euboean dialect still kept refusing to adopt the central \bar{u} for a fairly long period, perhaps to the very end of the existence of this dialect as such.³³

8. As to the further development of the non-Euboean Attic-Ionic long-vowel system, we need but refer to *Ruipérez's* explanations in the Word 12,74sq. which comprise all the succeeding stages of Attic. For it has to be stressed that the long-vowel systems of Ionic of Asia Minor and of the Cyclades had in no way differed since the 5th cent. B. C. from the conditions prevailing in Attica. In any case it can be observed that ever since the indicated time most of the Greek dialects had gradually come to be more and more overlaid by that specific interdialectal structure, which is called the Attic or the Hellenistic Koine; under these circumstances it is even so very difficult to establish the purely dialectical development for the period concerned. —As to Euboean, the perspective of its further development, which at least

in some parts of the Euboean territory kept ignoring the existence of the central \tilde{u} , has been already outlined sub 7.

Summing up, we can therefore characterize the comparative development of the single Attic-Ionic dialects roundly as follows: If there existed at all any long-vowel systemic difference within the Attic-Ionic group in the first three centuries of the 1st millennium B.C., it likely consisted—owing to the different rate of progressiveness of the shift of the very much open \bar{e} into a less open \bar{e} —in the differing systemic development of the Ionic of Asia Minor, which obviously was in this respect the most progressive of the group, on the one hand, and of the Cycladic of Naxos, Keos, and Amorgos, on the other hand, the said Cycladic dialects being the most conservative of the Attic-Ionic group from this point of view. The place of Attic would be somewhere in between; as to Euboean and the other dialects of the Cyclades, nothing positive can be said, even if the possibility of some conformity with the Ionic of Asia Minor is not excluded. — In the historical period of the development of the Attic-Ionic dialects, however, a substantial difference becomes positively noticeable between Euboean, which was a dialect preserving its back \tilde{u} —in some Euboean regions at least—perhaps to the very end of its existence as a pure dialect of the common local speakers, i. e. not overlaid by the Attic Koine, and between the rest of the Attic-Ionic dialects, in which there occurred a comparatively early shift of this \tilde{u} to the central position of \tilde{u} .

NOTES

¹ See esp. *J. S. Lasso de la Vega*, Sobre la historia de las vocales largas en griego, *Emérita* 24 (1956), 261—293, *Katičić*, Zu einigen Grundfragen der Entwicklungsgeschichte des griechischen Vokalsystems, *Živa antika* 8 (1958), 289—293, *W. S. Allen*, Some Remarks on the Structure of Greek Vowel System, *Word* 15 (1959), 240—251.

² *A. Bartoněk*, The Problem of the Boeotian and Thessalian Narrowings, *SPFFBU A* 10 (1962), 167—179.

³ *A. Bartoněk*, Remarks on the Problem of the Elean Sign A Representing the proto-Greek \bar{e} , *Eirene* 2 (1963), 97—110.

⁴ *A. Bartoněk*, Zur Problematik der phonematischen Wertung der altgriechischen kurzen Diphthonge, *SPFFBU E* 5 (1960), 85—88.

⁵ Concerning the Ancient Greek compensatory lengthenings and equivocalic contractions see also *A. Bartoněk*, The Problem of the Primary and Secondary \bar{e} , \bar{o} in Ancient Greek Dialects, *Charisteria Francisco Novotný oblata*, Prague 1962, 79—92.

⁶ Cf. *P. Kretschmer*, Zur Geschichte der griechischen Dialekte, *Glotta* 1 (1909), 30 sqq.

⁷ Concerning the chronology of this change see *A. Bartoněk*, On the Sources of Origin of the Attic-Ionic Changes $\bar{a} > \bar{e}$ and $\tilde{u} > \tilde{u}$, *Geras*, Studies presented to G. Thomson, *Graeco-Latina Pragensia* II, Prague 1963, 27—39.

⁸ This systemic scheme is not explicitly given in Ruipérez, its existence, however, is quite clearly implied in Ruipérez's previous expositions.

⁹ The spelling H was used there merely for the local substitute of the proto-Greek \bar{a} and for the \bar{a} produced by the 1st compensatory lengthening, the spelling E being used, on the other hand, not only for the short \bar{e} , but also both for the proto-Greek \bar{e} and for the secondary \bar{e} produced by the compensatory lengthening, contraction or monophthongization. See e. g. $\kappa\alpha\sigma\iota\gamma\acute{\nu}\epsilon\tau\eta$ Schw. DGE 758₂ (Naxos/tit. Deli repertus/, VI) or cf. $\mu\tilde{\nu}\eta\mu\alpha$ with $\tilde{\epsilon}\mu\acute{\iota}$ Schw. 751, 4 (Amorgos, V?), $\acute{\iota}\sigma\tau\acute{\iota}\eta\mu\iota$ with Κλῆρογογῆνες Schw. 765, 1 (Keos, V) etc. As for the phonematic difference between \bar{e} (= proto-Greek \bar{a} and \bar{a} produced by the 1st lengthening), \bar{e} (= proto-Greek \bar{e}) and \bar{e} (secondary \bar{e}), see Note 20.

¹⁰ See *Schwyzler*, GG I 187.

¹¹ This is true even of *Schwyzler's* modification explained in GG I 188.

¹² See *Schwyzler*, GG I 185 sq., and *J. S. Lasso de la Vega*, *Emérita* 24, 279. But cf., on the other hand, *Ruipérez*, *Word* 12, 71 (Note 11).

¹³ The reason is to be found in the fact that in these areas the reverse shift of $r\bar{a}$, $e\bar{a}$, $i\bar{a}$ did not take place, so that the phoneme \bar{a} had never there a combinatory variant of the \bar{a} -quality.

¹⁴ Cf. Note 6; see also *A. Bartoněk*, *Geras* 31, Note 11.

¹⁵ I. e. possibly not in Ionia — if the local systemic conditions shown in the last paragraph of No. 3 were true.

¹⁶ The sign $\bar{\epsilon}$, indicates here that $\bar{\epsilon}$, being between $\bar{\iota}$, $\bar{\epsilon}$ and \bar{a} , was possibly changed into $\bar{\epsilon}$, for some period at least.

¹⁷ See *A. Martinet*, *Rôle de la corrélation dans la phonologie diachronique*, *Travaux du Cercle Linguistique de Prague* 8 (1939), 285.

¹⁸ See Note 16.

¹⁹ I. e. on the Cyclades with the exception of Naxos, Keos, Amorgos (see sub 5 below).

²⁰ The phonemic distinction between \bar{a} and $\bar{\epsilon}$ is clear from the examples given in Note 9, while that between $\bar{\epsilon}$ and $\bar{\iota}$ is implied in the fact that about 400 B. C. — i. e. after the fusion of \bar{a} and $\bar{\epsilon}$ — the spelling contrast H:É was transferred from the phonic relation of $\bar{a}:\bar{\epsilon}$, $\bar{\epsilon}$ on that of $\bar{\epsilon}:\bar{\iota}$ (cf. e. g. $\mu\eta$ Schw. 767₁ (Poiassa on Keos, IV in.) with $\phi\acute{\epsilon}\rho\epsilon\nu$ l. c.₁₀) the latter phenomenon would be namely impossible, if the opposition $\bar{\epsilon}:\bar{\iota}$ had been liquidated before.

²¹ Concerning the chronology of the change see *A. Bartoněk*, *Geras* 32 sqq.

²² Cf. *F. Sommer*, *Ahhijavā-Urkunden*, München 1932, p. 23, Note 1.

²³ See *Schwyzler*, *GG* I 182; cf. also *A. Bartoněk*, *Geras* 33 sqq.

²⁴ Schw. *DGE* App. = *E. Schwyzler*, *Dialectorum Graecarum exempla epigraphica potiora*,³ Lipsiae 1923, Appendix on pp. 383sqq.

²⁵ Concerning the „direct“ and „indirect“ argumentation as to this problem, see *A. Bartoněk*, *The Chronology of the Monophthongization of ei and ou in Ancient Greek Dialects*, *SPFFBU* E6 (1961), 135–146.

²⁶ Further documentation see in *Meisterhans—Schwyzler*, *Gramm. der att. Inschriften*,² Berlin 1900, p. 63, Note 538.

²⁷ Cf. $\epsilon\iota\mu\acute{\iota}$ *Hesperia* 5 (1936), 33 (Attica, ca. 650); $\epsilon\iota\mu\acute{\iota}$ *SEG* 14, 565 (Thasos, 625–600?); $\epsilon\iota\mu\acute{\iota}$ *Schw.* 723, 3 (Miletos, VI med.), $\epsilon\iota\mu\acute{\iota}$ *IG* XII 9, 297 (Éretria, 500–480?).

²⁸ Quoted according to *Thumb—Scherer*, *Handbuch der griech. Dialekte* II², Heidelberg 1959, p. 291.

²⁹ Cf. *Schwyzler*, *GG* I 614.

³⁰ See e. g. $\chi\acute{o}\upsilon\varsigma$ Schw. 725₄ (Miletos, paulo ante 500) beside $\chi\delta\nu$ Schw. 726₂₁ (Miletos, 450); cf. also Attic $\Lambda\acute{\epsilon}\tau\rho\upsilon\varsigma$, already quoted on p. 78.

³¹ See e. g. $\Pi\iota\upsilon\theta\lambda\omega = \Pi\nu\theta\lambda\omega$ Schw. 467₄ (Thebes, 355–346), $\chi\rho\nu\sigma\acute{\iota}\omega = \chi\rho\nu\sigma\lambda\omega$ l. c.₉ — beside $\chi\rho\nu\sigma\lambda\omega$ l. c.₁₂ and $\acute{\alpha}\gamma\gamma\upsilon\lambda\acute{\iota}\omega$ l. c.₁₀.

³² *Ruipérez*, o. c. 74, on the other hand, prefers the open quality $\bar{\epsilon}$ even here — which is for physiological-articulation reasons improbable.

³³ According to *Hatzidakis* (see *Schwyzler*, *GG* I 182) the pronunciation *stúra* (= $\Sigma\tau\acute{\upsilon}\rho\alpha$), *kúmi* (= Κύμη), *thvatéra* (= θυβατέρα) may be heard in Euboean Kyme even nowadays.

Translated by *S. Kostomlatský*

VÝVOJ IONSKOATTICKÉHO DLOUHOVOKALICKÉHO SYSTÉMU

Španělský badatel M. S. Ruipérez se pokusil před několika lety v článku uveřejněném v časopise *Word* 12 (1956), 67–81, rozebrat a fonologicky zdůvodnit vývoj vokálních systémů v attičtině a bojoťatině, a položil tak základy k novému, v oblasti klasických jazyků dosud nepoužitému přístupu k rozboru nářečního hláskosloví. Přes jistou — jen zčásti oprávněnou — kritiku této Ruipérezovy pozoruhodné metody si již do dnešní doby získal Ruipérezův pokus pevné místo v historii starořeckých hláskoslovných bádání a zaslouží si nepochybně následování i v jiných geografických oblastech řeckého nářečního světa. — Podle vzoru Ruipérezova se pokouší i autor tohoto článku o soustavný diachronicko-fonologický rozbor dlouhovokalického systémového vývoje celé tzv. ionskoattické nářeční skupiny a podává v sedmi bodech jeho přehledný nástin pro jednotlivá ionskoattická nářečí až asi do poloviny 4. stol. př. n. l. Pokud jde o další ionskoattický vývoj soustav dlouhých vokálů (viz bod č. 8), odkazuje autor především na Ruipérezovy výklady z citovaného článku, jak tam byly podány pro všechna následující období attičtiny. Nejde tu jen o to, že se zřejmě již od 5. stol. př. n. l. attický dlouhovokalický

system zřejmě v ničem nelišil od dlouhovokálních systémů v kykladské a maloasijské ionštině, ale i o to, že zejména od poloviny 4. stol. začínají již být všechny lokální řecké dialekty čím dále, tím více překrývány tím specifickým interdialektním jazykovým útvarem, který bývá později označován jako attická nebo helénistická koiné. Zdá se, že si pouze eubojská ionština udržela i v této době svou starší systémovou podobu se zachovaným dlouhým *ū* (viz systémovou fázi č. 6; poslední schema).

Všeobecně je pak možno charakterizovat vývoj dlouhovokálního systému v jednotlivých ionskoattických dialektech asi tak, že existovala-li vůbec v prvních třech stoletích 1. tis. př. n. l. uvnitř ionskoattické nářeční skupiny nějaká dlouhovokální systémová diference, projevovala se tehdy spíše — na základě různě rychlého postupu v přechodu velmi otevřeného *æ* v méně otevřené *ē* — na jedné straně mezi maloasijskou ionštinou jakožto dialektem v tomto směru nejprogressivnějším a na druhé straně zejména mezi kykladštinou z Naxu, Kea a Amorgu jakožto nářečními útvary v tomto ohledu nejkonservativnějšími (attičtina by tu stála asi uprostřed; o ionštině z Euboje a z kykladských ostrovů mimo Naxos, Keos a Amorgos nelze tu soudit nic určitého, možnost její shody s maloasijskou ionštinou není však zcela vyloučena). Naopak v historických obdobích vývoje ionskoattických dialektů se vytváří zásadní předěl mezi eubojsčinou jakožto dialektem uchovávajícím si své zadní *ū* až snad do konce své existence a mezi ostatními ionskoattickými dialekty, které zřejmě někdy v 7.—6. stol. př. n. l. posunuly toto *ū* do centrální polohy *ū̄*.