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The history of phonemic investigation in Ancient Greek

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II

THE HISTORY OF PHONEMIC INVESTIGATION IN ANCIENT GREEK

The first noteworthy attempts at a phonemic evaluation of Old Greek vowels are associated with the first volume (and, as it happens, the only one) of the Bratislava periodical *Recueil linguistique de Bratislava* (vol. I, 1948), in which W. Brandenstein's study *Zur historischen Phonologie an Hand von altgriechischen Beispielen* was printed (pp. 83—91). It is true that Brandenstein deals in his contribution with the phonemic questions pertaining to the whole sphere of Ancient Greek phonology, yet, as far as the vocalic aspect is concerned, we feel most keenly interested in Brandenstein's view which sees the most significant feature in the development of the Ancient Greek vocal system in the tendency in Ancient Greek to monophthongize diphthongs (the author, however, does not answer the question why it was only a part of Old Greek diphthongs that got monophthongized and why the diphthongs *au*, *eu* escaped this process). To be sure, Brandenstein's arguments concern only Attic without attempting any confrontation whatsoever with other Greek dialects. We know that Brandenstein had written another article before the above-mentioned study, entitled *Phonologische Bemerkungen zum Altgriechischen*, but this paper was published as late as in *Acta linguistica* 6 (1950—1951), pp. 31—46. The latter work, however, gives the impression of being rather work notes in contrast to the summing up character of the contribution to *RldB* and contains seven brief discussions of phonemic problems in Ancient Greek. The most remarkable view concerning the vowels we come across in the first short chapter, in which the author expresses the opinion that the place of articulation of the Greek short *ă* lay farther back, being at the same time higher than in the case of the long *ā*, and for this very reason the Attic-Ionic change *ă* > *ē* had no concurrent analogical change in the short-vowel system; the author, however, does not substantiate his argumentation with sufficient linguistic documentation. The standpoints expressed in both these articles Brandenstein worked out later in the first part of his publication *Griechische Sprachwissenschaft, Sammlung Göschen*, Berlin 1953, presenting thus a systematic analysis of Greek phonology, from the phonemic point of view, which is in scientific literature

the first and the only work of this kind so far. Yet, even here his explanations are restricted to Attic only. Nevertheless, we think it appropriate—with respect to some of our further discussions—to give here at least the basic scheme of Brandenstein's views of the systemic development of the Attic vowels and diphthongs.

This development could be illustrated according to Brandenstein for the different evolutionary phases of the Attic dialect in the following way:

Short vowels:

	<i>9th cent. B.C.</i>	<i>8th/7th cent. B.C.</i>				<i>3rd cent. B.C.</i>				<i>Middle Greek</i>				
<i>i</i>	<i>u</i>	<i>i</i>	<i>ü</i>	—	<i>i</i>	<i>ü</i>	<i>u</i>	<i>i</i>	<i>e</i>	<i>o</i>	<i>a</i>	<i>e</i>	<i>o</i>	<i>u</i>
	<i>e</i>	<i>o</i>	<i>e</i>	<i>o</i>	<i>e</i>	<i>o</i>	<i>a</i>	<i>a</i>	<i>e</i>	<i>o</i>	<i>a</i>	<i>e</i>	<i>o</i>	<i>a</i>

Long vowels:

	<i>9th cent. B.C.</i>	<i>8th/7th cent. B.C.</i>				<i>6th cent. B.C.</i>				<i>5th/4th cent. B.C.</i>				
<i>i</i>	<i>ū</i>	<i>ī</i>	<i>ū</i>	—	<i>ī</i>	<i>ū</i>	<i>ū</i>	<i>ī</i>	<i>ē</i>	<i>ō</i>	<i>ā</i>	<i>ē</i>	<i>ō</i>	<i>ā</i>
	<i>ē</i>	<i>ō</i>	<i>ē</i>	<i>ō</i>	<i>ē</i>	<i>ō</i>	<i>ā</i>	<i>ā</i>	<i>ē</i>	<i>ō</i>	<i>ā</i>	<i>ē</i>	<i>ō</i>	<i>ā</i>

The development of the Ancient Greek short diphthongs illustrates Brandenstein as follows:

Short i-diphthongs:

	<i>8th cent. B.C.</i>	<i>6th cent. B.C.</i>				<i>4th cent. B.C.</i>				<i>3rd cent. B.C.</i>				
	<i>ai</i>	<i>ai</i>	(<i>ē</i>)	<i>oi</i>	<i>ui</i>	<i>ii</i>	<i>ē</i>	<i>oi</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>
	<i>ei</i>	<i>oi</i>	(<i>ē</i>)	<i>oi</i>	<i>eu</i>	<i>eu</i>	<i>ē</i>	<i>oi</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>

Short u-diphthongs:

	<i>8th cent. B.C.</i>	<i>6th cent. B.C.</i>				<i>3rd cent. B.C.</i>							
	<i>au</i>	<i>au</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>
	<i>eu</i>	<i>ou</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>	<i>ē</i>

About the middle of the fifties, however, a new orientation was gaining the upper hand in Greek linguistics, represented in contrast to Brandenstein's purely static description of the phonemic systems by the more dynamic method of A. Martinet, whose principles were formulated and partly also applied to different IE. languages particularly in his work *Économie des changements phonétiques, Traité de phonologie diachronique*, Berne 1955.²² His aim is not only to describe the development of the

²² A great part of this monograph has recently been published in Russian translation under the heading *Princip ekonomii v foneticheskikh izmeneniyakh*, Moskva 1960.

phonic structure of a language, but also to perform a thorough structural analysis of the linguistic reality with reference to its immediate and dynamic diachronical growth and to its inseparable coherence with the demands of consistent functional economy. On the basis of this theory there originated a few years ago the hitherto most original work devoted to the phonemic problems of Ancient Greek dialects, i.e. the study by Martín S. Ruipérez, entitled *Esquisse d'une histoire du vocalisme grec*, *Word* 12 [1956], 67—81. Ruipérez does not attempt in this article a complex phonemic analysis of all the Greek dialects, his task being a partial one and consisting in the effort to describe and substantiate phonemically the development of the vocalic systems in Attic and Boeotian, that is to say in such two dialects as are rich in documentation, having at the same time passed through rather varied stages of phonic development. The main representative of the motive force, which acts as the immediate inducer of changes in the vocalic system, is in Ruipérez's theory the phonemic pressure, which is said to assert itself within every system between the articulation areas of the single phonemes. In this connection Ruipérez emphasizes that even to Ancient Greek can rightly be applied Martinet's statement²³ that the articulation extent on the back vocalic axis is smaller than that on the front axis and that "the vocalic systems accommodating on the back axis more than three phones are unsteady, because the articulation area of these phones is compressed".²⁴ The development of both, the long and the short vocalic subsystems, in the two dialects, as seen by Ruipérez, may briefly be depicted as follows:

A. Attic

1. The proto-Greek situation²⁵

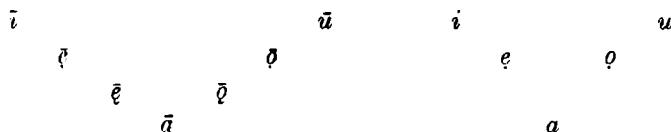


2. In consequence of the operation of the oldest type of compensatory lengthening [the type *esmi > ēmi, *bolnā > bōlā, *ephansa > ephāna] the transformation of the hitherto existing three-grade triangular system into a four-grade one with seven long monophthongs took place, the new, close ē-, ō- couple originating in this way (in the short-vowel system a parallel shifting of e > ē and o > ō is supposed to have taken place):

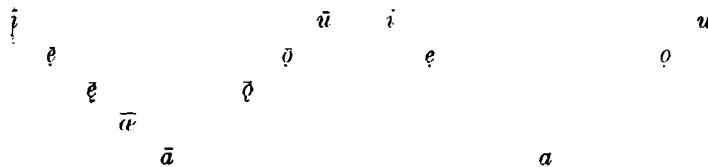
²³ Martinet, *TCLP* 8, 285.

²⁴ Martinet, *Économie* 95, and 98sqq.

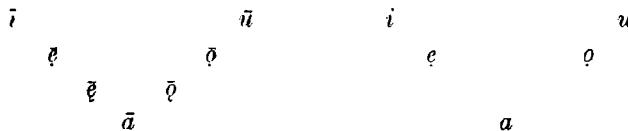
²⁵ Our stage No. 1 is equal to Ruipérez's § 2 in the quoted study; our stage No. 2 = § 3 Ruip.; No. 3 = § 5; No. 4 = § 6; No. 5 = § 8; No. 6 = § 9; No. 7 = § 10; No. 8 = § 11; No. 9 = § 12; No. 10 = § 13.



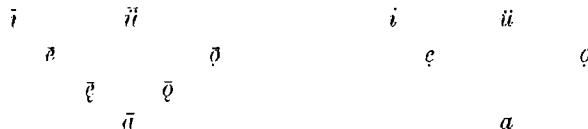
3. In connection with considerable overloading on the back long-vowel axis (each of the phonemes \bar{a} , $\bar{\eta}$, $\bar{\eta}$, \bar{u} —owing to the smaller range of articulation in the back of the oral cavity—was after the accomplished “first” compensatory lengthening compressed to a smaller place than the phonemes \bar{a} , $\bar{\epsilon}$, $\bar{\eta}$, \bar{i} on the front axis) the hitherto existing central \bar{a} was shifted into the front position of \bar{u} ;²⁶ soon after, however, a new central \bar{a} originated as the result of the “second” compensatory lengthening [the type *ens* > *ēs*, *tons* > *tōs*, **pantja* > *pansa* > *pāsa*]:



4. The front long-vowel axis being strongly overloaded now, the Attic \bar{a} got fused with $\bar{\epsilon}$, provided the former was not preceded by r , e , i (in the second case a reverse shift of \bar{a} to \bar{a} took place):



5. In consequence of a new overloading on the back long-vowel axis (the situation being the same as sub 2 above), the phoneme \ddot{u} was ousted into the central position of \ddot{u} , this change calling forth, at the same time, a parallel change in the short-vowel system (the pressure of the short close ϕ being here an additional motive).



6. On the back long-vowel axis a new distribution of the phonemic positions took place, when—in the first half of the 4th cent. B.C. at the latest—the close *ø* was shifted into *ü* (no parallel change taking place on the back short-vowel axis):

²⁶ We prefer here the transcription *æ* to Ruipérez's *â*.

<i>i</i>	<i>ii</i>	<i>ū</i>	<i>i</i>	<i>ii</i>
<i>ɛ̄</i>			<i>ē</i>	
<i>ē̄</i>	<i>ō̄</i>			
<i>ā̄</i>			<i>ā</i>	

7. This systemic situation got changed as late as about 100 B.C., after the close *ɛ̄* had fused with *i*, the hitherto existing open *ɛ̄* (and also *ō̄*) assuming soon after the positions of central *ē̄*, *ō̄* as the result of it (on the model of the latter phenomenon, even in the short-vowel system a couple of mid *ē̄*, *ō̄*-phonemes is supposed to have come into being at that time, the said position having, however, been assumed in this case—according to Ruipérez—by the up-till-then close *ē̄*, *ō̄*-sounds):

<i>i</i>	<i>ū</i>	<i>ū</i>	<i>i</i>	<i>ii</i>
<i>ē̄</i>		<i>ō̄</i>	<i>ē</i>	<i>ō</i>
<i>ā̄</i>			<i>ā</i>	

8. About 100 A.D. a new open *ɛ̄*, originating from *ai*, arose, pushing the mid *ē̄* into the position of close *ɛ̄*:

<i>i</i>	<i>ū</i>	<i>ū</i>	<i>i</i>	<i>ii</i>
<i>ē̄</i>		<i>ō̄</i>	<i>ē</i>	<i>ō</i>
<i>ā̄</i>			<i>ā</i>	

9. The long-vowel systemic situation described sub 7 above reappeared again, after also the new close *ɛ̄* got changed into *i* about 150 A.D. and the open *ɛ̄* (arisen from *ai*) assumed the position of mid *ē̄*.

<i>i</i>	<i>ū</i>	<i>ū</i>	<i>i</i>	<i>ii</i>
<i>ē̄</i>		<i>ō̄</i>	<i>ē</i>	<i>ō</i>
<i>ā̄</i>			<i>ā</i>	

10. After the liquidation of the correlation of quantity²⁷ in the 2nd cent. A.D. both the Attic subsystem of long vowels, and that of short vowels fused into one vocalic subsystem:²⁸

<i>i</i>	<i>ū</i>	<i>ū</i>
<i>e</i>		<i>o</i>
<i>a</i>		

²⁷ See more detailed information in Ruipérez's study (*Word* 12, 76).

²⁸ The vocalic change *oi* > *ii*, which occurred about 240 A.D., did not influence in the least, as Ruipérez rightly remarks, the form of this systemic stage.

B. Boeotian²⁹

1. Boeotian is said to have preserved for a very long time its assumed proto-Greek vocalism; Boeotian spelling does not show any traces whatsoever of differences between the primary long ē- vowels and ō- vowels, on the one hand, and on the other hand between those that originated in the course of the 1st millennium B.C. through the different types of the compensatory lengthening or through the contraction of e+e, o+o.

2. The first unstable factor originated in the Boeotian long-vowel system according to Ruipérez between 500 and 450 B.C., when the monophthongization of ei into ē took place and the primary mid ē was pushed, as the result of it, into the position of ū; see as early an example as *Μεξυλλεῖο* SEG II 185,₁ [Akraiphia, V p. post.]—cf. *Μείξυλλος* [name of a hero]—, or also *Tι-σιμένης* Schw. 478 B,₉ [Thespiae, post 424] and the like; it is specially the last document that points out the fact that the vowel reproduced by the sign t̄ had no more the value of mid long ē.³⁰ About 450 B.C. the Boeotian long-vowel system presented thus according to Ruipérez the following picture:

i	ū	i	u
ē ³¹	ō	e	o
ā		a	

²⁹ Our stage No. 1 = § 14 Ruip.; No. 2 = § 15; No. 3 = § 16; No. 4 = § 17; No. 5 = § 18. Let us add here that our linguistic documentation is to some extent different when compared with Ruipérez.

³⁰ As for the parallel change ou > ō > ū, Ruipérez does not expressly deal with the chronology of this monophthongization process, but he does not seem to place it before 450 B.C. This can be concluded from the fact that he says on p. 78 of the above-mentioned study about the close ē (traced back to ei) that it had no corresponding partner in the back row of the long-vowel system (cf. below sub 3). This passage leaves only two possibilities as to Ruipérez's view of the chronological aspect of the change ou > ō > ū: either ou got completely shifted to the position of ū prior to the liquidation of the diphthong ei, this, however, is not very likely, or the whole change ou > ō > ū ran its course subsequent to 450 B.C., which actually appears to be most probable (see even Note 33). This view seems to be in accord even with the opinion of Antkowiak, *La chronologie* 15sqq., who suggests, that the monophthongization of ei should from the physiological point of view be ascribed greater probability of a prior realization than the monophthongization of ou.—Nevertheless, let us add that for technical reasons we are prepared to put essentially both the monophthongization processes (both ei > ē and ou > ō) on the same chronological level in chapter X of this monograph (see esp. pp. 142sqq.).

³¹ As it is very probable that the system in question was of no long duration (see e.g. the coexistence of *Tι-σιμένης* and *Αμινομένης* = 'Aμενω- as early as in the quoted inscription Schw. 478 B,₉. C₄ [Thespiae, post 424]), it is not quite necessary to ascribe the original mid long ē the open quality; for this reason it would perhaps be better to put the sign for open quality in parentheses: ē.

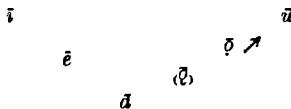
3. The new $\bar{\epsilon}$ was not, according to Ruipérez, integrated in the long-vowel system, as it is supposed not to have had a partner either in the back row of the long-vowel system or in the short-vowel system; for this reason the close $\bar{\epsilon}$ soon fused with \bar{i} (cf. as early an example as *Πίθαρχος* Schw. 451A₁₃ [Tanagra, post 426] and a few other samples of the same kind in the same inscription),³² its open counterpart \bar{e} assuming the mid position of \bar{e} again. In this way there is supposed by Ruipérez to have originated in Boeotian in the beginning of the 4th cent. B.C. a long-vowel system, which was quite identical with the proto-Greek long-vowel system. The system in question can be expressed with the following diagram:



4. The long-vowel system discussed sub 3 was according to Ruipérez pretty soon upset once more by monophthongization of the diphthong *ai*, which was changing into $\bar{\epsilon}$ through the medium of *ae*.³⁴ It is true that the oldest demonstration of the spelling *AE* used instead of *AI* comes likely as early as from the 6th cent. B.C. (*'Αμενοκλέας* Schw. 452, 2 [Tanagra, litt. vetust., i.e. probably a 6th cent. document]),³⁵ but the actual termination of the monophthongization change of *ai* > *ae* > $\bar{\epsilon}$, as such,³⁶ cannot be verified before the introduction of the Ionic alphabet

³² Cf. also the form *'Αμινομέτες* from Thespiae quoted in Note 31.

³³ This scheme is, of course, valid only if we take for granted that *ou* either had not even then commenced its process of monophthongization, or that it had been completely transformed into \bar{u} already. But it is also possible that the beginnings of the monophthongization of *ou* may be placed towards the very close of the 5th cent. B.C., with the assumption that this diphthong acquired in the beginning of the 4th cent. B.C. just its transition character of close \bar{o} , which would mean that the system disposed at that time, at least for the time being, of two \bar{o} -vowels in contrast to one \bar{e} -vowel:



Such a system, however, was sure to have but little stability, and there is no doubt that it would have been undergoing a rapid transformation into a system with one \bar{e} and one \bar{o} again.

³⁴ According to Ruipérez 78 the later chronology of this process—as compared with the change *ei* > \bar{e} > \bar{i} —is revealed by the inscriptions Schw. 478 and 451 (see above), which both still preserve—partly at least—the spelling *AI*, but have—I or I for *ei* at the same time.

³⁵ The spelling *AE* for *ai* is in Tanagra extraordinarily frequent.

³⁶ In contradiction to the monophthongization changes *ou* > \bar{o} > \bar{u} . *ei* > \bar{e} > \bar{i} , where the monophthongization process proper was in progress at the very beginning of the two changes, the monophthongization process proper within the changes *ai* > *ae* > $\bar{\epsilon}$ (and also *oi* > *oe* > \bar{u} ; see sub No. 5) took place as late as during the last phase of the whole change.

into Boeotian, which took place within the second quarter of the 4th cent. B.C. (cf. e.g. *'Αρίστηχμο[ς] = Αρίσταιχμος* IG VII 2427₁₁ [Thebes, 400—350]).³⁷

This newly arisen open $\bar{\epsilon}$ is supposed to have pushed at that time the local mid long \bar{e} into the position of a close vowel (cf. *Κράτεις = -ης* IG VII 2427₂₂ [Thebes, 400—350]), yet in the back row the phoneme \bar{o} retained, of course, still its medial position.³⁸ About 350 B.C. the Boeotian long-vowel system represented the following picture:

\bar{i}	\bar{u}	i	u
$\bar{\epsilon}$	\bar{o}	e	o
\bar{a}		a	

5. The last Boeotian diphthong to undergo monophthongization was *oi*, and it is obvious that it got transformed into \bar{u} through the medium of $o\bar{e}$. The oldest demonstration of the spelling *OE* being used instead of *OI* comes, to be sure, from the 5th cent. B.C. already (cf. e.g. *Μοέ(ρ)ιχο(ς)* Schw. 451 A₆ [Tanagra, post 426]),³⁹ but also in this case the full accomplishment of this monophthongization process cannot be verified before the middle of the 3rd cent. B.C. (cf. e.g. *Βοιωτύ = Βοιωτοί* IG VII 2724c₁d₁ [Ptoion, III p. post.]). Not very long after, the close $\bar{\epsilon}$ (i.e. the primary Boeotian \bar{e} along with the secondary \bar{e} arisen through contraction or compensatory lengthening) fused, according to Ruipérez, with \bar{i} (cf. *Νιομήνιω* Schw. 511₁ [Lebadeia, II], *λειτωργίμεν* = Att. *λειτουργεῖν* Schw. 509₂₄ [Lebadeia, III], *ἀδικίμεν* = *ἀδικεῖν*, *ἀγιρέμεν* = *ἀγείρειν* Schw. 545₄ [Ptoion, ca. 180]), while the position of the close $\bar{\epsilon}$ was now taken, according to Ruipérez's view, by the hitherto open $\bar{\epsilon}$, i.e. $\bar{\epsilon}$ that originated from the diphthong *ai* (cf. *Θειβεῖν = Θηβαῖοι* BCH 23, 587 [fanum Cabiri prope Thebas, III p. post.]).^{39a} In the 2nd cent. B.C. the picture of the long-vowel system in Boeotian appears to be, according to Ruipérez, as follows:

\bar{i}	\bar{u}	i	u
$\bar{\epsilon}$	\bar{o} (?) ⁴⁰	e	o
\bar{a}		a	

³⁷ The monophthongization of *ou* > \bar{o} , as well as the narrowing process $\bar{o} > \bar{u}$, had certainly been accomplished by that time already (see e.g. the Boeotian spellings *Π]ονθίω = Πυθίον* Schw. 467₁ [Thebes, 355—346], *χρονσίω = χρονσίον* l.c.₉—beside *χρονσίον* l.c.₁₁ and *δρυνόλω* l.c.₁₀).

³⁸ See also Allen, *Word* 15, 247; the other view, according to which this \bar{o} was of open quality (cf., e.g., Bechtel, *GD* I 235, Lejeune, *Traité* 203), was probably based on the assumption that under the spelling *Ω* the open quality of \bar{o} had to be hidden in all Greek dialects. Cf. also p. 36 of this monograph.

³⁹ Even the spelling *OE* for *oi* is very frequent in Tanagra.

^{39a} Nevertheless, one should expect here *Θειβεῖν* instead of *Θειβεῖν*.

⁴⁰ Here, however, Ruipérez was hardly right when postulating for the then-existing \bar{e} , \bar{o} a close

From Ruipérez's article we can see that Boeotian was a harder nut for the author to crack than Attic when he tried to explain and evaluate phonemically the changes in question. It must, nevertheless, be put to Ruipérez's doubtless credit that he was able to offer a quite acceptable explanation of the fact that in the front row of the Boeotian long vowel system the primary ē (together with the secondary ē originating through contraction or compensatory lengthening) was of a close character, while on the back axis the phone ō of the same origin stood throughout the whole process of Boeotian linguistic development quite aside from any narrowing tendency (esp. when compared with Thessalian, in which the tendency towards narrowing the phonemes ē and ō was a parallel process in both rows).

Ruipérez's standpoints called forth a lively discussion among scholars, and their arguments were soon made public in periodicals. The earliest response came from two research-workers whose attitude to Ruipérez's methodical approach was somewhat critical. The first to express his views was J. Sánchez Lasso de la Vega, who published his article *Sobre la historia de las vocales largas en griego* in the journal *Emérita* 24 [1956], pp. 261—293. Lasso de la Vega opposes in his work mainly the phonemic argumentation in Ruipérez's theory as well as his endeavour to explain all changes in the Attic and Boeotian systems of long vowels with the principle of the systemic pressure, and he suggests not to overestimate the structuralistic methods, although he does not reject them altogether. He stresses the fact that the linguistic reality is too complex to enable a research-worker to find and interpret all the causes of the phonetic changes to our full satisfaction. He believes that the structuralistic principle to seek the inner causes of phonetic changes is essentially correct, but it should not lead to underestimation of the outer factors in the historical development of a language. Among these outer factors he lays a special stress particularly on the substratum influence, tries to combine the due regard to it with the diachronical analysis of phonic systems, and aims in this way at constructing a more universal method helping us to find a better interpretation of the phonic changes.

These Lasso de la Vega's theoretical considerations are upon the whole more convincing than his own concrete linguistic standpoints and conclusions. The author's criticism of some too speculative features of the structural methods, and his drawing

quality. In the case of ō the author was, after all, aware of it himself, and for this reason he attached a question mark to his ō; as to the vowel ē, it is necessary to point out that the spelling EI was then used for the old ai only before vowels and that expressions of the type Θειστήν likely present to us, therefore, only a variant close pronunciation of the normal mid long ē.—So most probably the long-vowel systemic scheme in reference to the beginning of the 2nd cent. B.C. was essentially the same as that of the proto-Greek period:

i	u
ē	ō
ā	

attention to the danger that these methods may fail to comprehend a language in all its copiousness are no doubt correct, but it must be pointed out that the very linguistic arguments with which de la Vega opposes Ruipérez are not always supported with sufficient documentation. It is especially de la Vega's view that for instance in Thessalian there must have once existed a four-grade long-vowel system—this kind of long-vowel system being there in our opinion not only undemonstrable but also quite improbable (cf. further pp. 122sqq. and pp. 142sqq.); likewise his arguments relating to the chronology of the Attic-Ionic changes $\bar{a} > \bar{\alpha} > \bar{\varepsilon}$ and $\bar{\iota} > \bar{\eta}$ are not convincing enough (cf. pp. 99sqq., 110sqq.).⁴¹ — What is, however, most surprising in Vega's work is the fact that the author after his foregoing theoretical criticism, in which he rejects—only partly with justification—the somewhat mechanical character of Ruipérez's method and correctly points out some of the dangers implied in the methods of structuralists, comes forth himself towards the end of his work with his own theory, displaying a structuralistic tendency as well and containing a far more schematic explanations of some Attic phonic changes than the explanations offered in Ruipérez's analysis.

In the history of investigations of the Greek vocalic systems Vega's study is, nevertheless, significant insomuch that it represents the first attempt to compare the long-vowel systems of the linguistically most important Greek dialects. A drawback of his approach is, however, the fact that the diachronical investigation is not supplemented in his work with the synchronical view of the problem as well, and that he failed to realize that only such systems are mutually comparable as belong to the same chronological stage.

The second study containing criticism of Ruipérez's method is a short paper by R. Katičić, entitled *Zu einigen Grundfragen der Entwicklungsgeschichte des griechischen Vokalsystems*, *Živá antika* 8 (1958), pp. 289–293. When compared with the pretty extensive Vega's work, this treatise displays only a theoretical attitude, not being supplemented with a concrete analysis of any special linguistic problem. Katičić charges Ruipérez with inconsistency and arbitrary explanation of linguistic

⁴¹ Against Ruipérez's structuralistic theory explaining both the change of $\bar{\iota} > \bar{\eta}$ and that of $\bar{a} > \bar{\alpha}$, J. Lasso de la Vega, *Emérita* 24, 284, raises the following objections:

1. Neither of the two mentioned changes represented in Attic any expedient systemic arrangement that could be considered symmetrical and definite.
2. Ruipérez's explanation is not in accord with a demonstrable chronology of the two changes.
3. Ruipérez failed to explain why the first as well as the second change occurred only in the sphere of the Attic-Ionic dialects, since the back axis of the long vowels was overloaded in the same way in numerous other Greek dialects, too (in fact in all of those in which the oldest compensatory lengthening had given rise to the new, phonemically independent $\bar{\varepsilon}$ and $\bar{\eta}$).

We have discussed these objections in a special study (see Bartoněk, *Greco-Latina Pragensia* II, 27sqq.) and came to the conclusion that the third argument of Lasso de la Vega seems to be the weightiest, being, nevertheless, capable of only modifying Ruipérez's hypothesis by supplementing it by the substratum aspect. See more on p. 115sq.

realities, but does not reject the Martinet-Ruipérez approach altogether. It is true, he rightly points out that this approach is not a magic means capable of replacing and rendering unnecessary all other investigation, but he admits, at the same time, that this is quite a useful method, enabling us to follow one important aspect of linguistic development, namely the structural-economic one. The author speaks in this connection in the spirit of Benveniste⁴² about the contrast of the "structural" truth and the "historical" truth, saying that the so-called proto-Greek vocalic system, which—as it is generally admitted—was a three-grade one as to long and short vowels alike, represents, no doubt, a "structural" linguistic truth, nevertheless, as Katičić says, one would not be surprised if it were found that all the Greek dialects did not fully bring this system into life. This argument is, in fact, the most important Katičić's comment on the classification of Greek dialects, and from it we may conclude—as well as from a few other analogical remarks of his—that the author was not exactly a keen adherent of the theory of a uniform proto-Greek phase in the development of Greek dialects.

Criticism of Ruipérez's method, especially as formulated by Katičić, is no doubt to some extent correct. Even if stress was laid on the fact that linguistic development is a phenomenon too complex to be uniformly explained from the structuralistic standpoint only, the method of Martinet-Ruipérez was, nevertheless, ascribed by Katičić the value of a suitable help in the historical investigation of the Greek language.

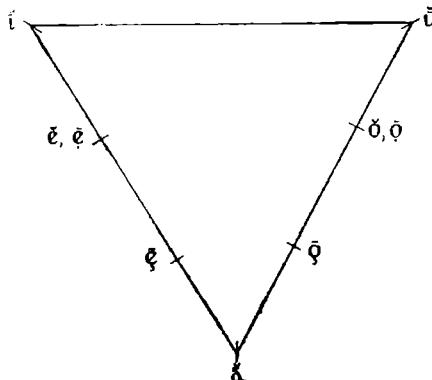
And finally these two responses found a third associate in W. S. Allen's study *Some Remarks on the Structure of Greek Vowel System*, *Word* 15 (1959), pp. 240—251, likewise devoted to the phonemic problems of vowels in Ancient Greek. Also this author holds Vega's criticism of onesided Ruipérez's approach to be justified (although not hesitating to ascribe value to Ruipérez's work), and comes to the conclusion that in the meantime it is more advisable to be satisfied with mere description of the linguistic facts than to attempt some causal or teleological interpretations. The main object of Allen's study is to analyze the traditional phonetic and phonemic views of the quality of both, the short and the long Attic-Ionic vowels of the *e*- and *o*-shade, as well as the views of their mutual relationship.

In the rather extensive theoretical introduction Allen first introduces in Greek linguistics a new significant technical expedient, i.e. illustration of the two vocalic sub-systems, the short one and the long one, with one diagram. The diagram is composed of two triangles, the short-vowel triangle being inserted in the long-vowel one. At the same time the articulation extent between the two extreme vowels on the front or the back articulation axis is geometrically divided according to the number of vowels accommodated on the axis, this being in harmony with the so-called principle of equal spacing.

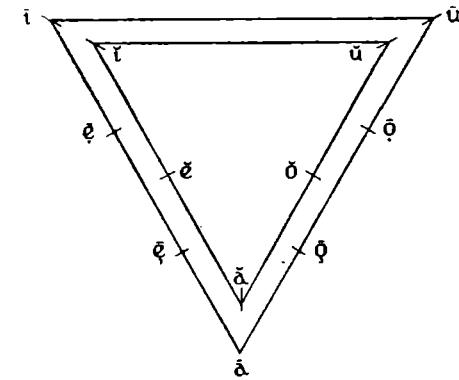
In accord with these standpoints the author thereupon constructs—even if with

⁴² Benveniste, *BSL* 53, 47.

some simplification—for the whole Attic-Ionic dialectal area⁴³ his first “provisional” double diagram, in contrast with the traditional practice of single diagrams:

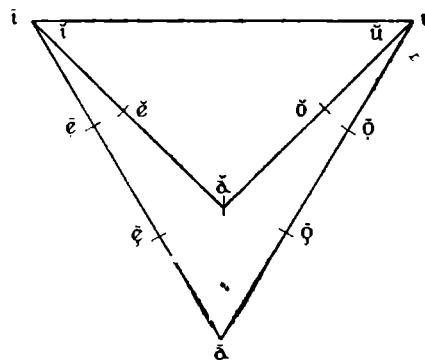


*The traditional diagram
of the Attic-Ionic vowel system*



The first Allen's diagram

The provisional character of the first Allen's diagram consists in the fact that in Allen's opinion it would be impossible on the basis of this systemic scheme to explain satisfactorily why in the Attic-Ionic area there originated through compensatory lengthening from the short ē, ō just the close ē, ō if this short ē/ō is placed in our diagram just in the middle between the close ē/ō and the open ē/ō. To make away with this difficulty Allen suggests an adaptation of his provisional diagram, assuming a higher—i.e. a closer—articulation of not only the short ē and ō, but also of the short ā:



The second Allen's diagram

⁴³ Allen's diagrams, reproduced in our work on this page, represent naturally a condition that may be denoted as the original Attic-Ionic systemic stage before the change $\bar{a} > \bar{\omega} > \bar{\epsilon}$ started off, i.e. somewhere about the beginning of the 1st millennium B.C. (cf. specially our expositions in Chapter VII, sub B, pp. 99sqq.); thus in this case we do not have to deal with a scheme demonstrating conditions of the Classical Era.

This scheme, on the one hand, conforms with the principle of “equal spacing” (there is namely in it no such asymmetry in the location of the short ē, ḍ, as we come across it in the said Attic schemes under 2—6, where we find a greater gap between ē and ḍ, or also between ḍ and ḏ than between ē and ī, or ḍ and ī), while, on the other hand, it does full justice to Allen’s belief in the short ē-, ḍ-articulation being in Attic-Ionic rather closely associated with the articulation of the local long close ἔ, ὁ.⁴⁵ Worth noting is even Allen’s speculative assumption of a higher articulation position in the case of the short Attic-Ionic ḍ⁴⁶—this being a very interesting hypothesis, which is in Allen’s article ingeniously connected with the geographical distribution of another Greek dialectal differentiation phenomenon, i.e. the contrast *ar/ra*, *al/la* : *or/ro*, *ol/lo* with substitutes for the IE. sonants *r*, *l*.⁴⁷

Allen namely does not exclude the possibility that in the Attic-Ionic dialects the local *a*-shade in the above-mentioned *ar/ra*, *al/la* was just the outcome of the fact that in this dialectal area the short *a* had possibly a higher articulation position than the long ḍ, and that, for this reason, the articulation area of the short *a* was more approaching the assumed mid and at the same time central vocalic quality Λ, which was arising in the proto-Greek period in the neighbourhood of the IE. sonants *r*, *l*, than the Attic-Ionic articulation area of the short *o* (in contrast to the Greek dialects with *or/ro*, *ol/lo*, where the short *a* had a maximum open position, rather remote from the quality Λ).

To the Greek dialectal vocalic problems is related also another important Allen’s remark, pointing out that in dialects disposing only of one long ē, or ḍ, there is no reason for believing these vowels to be open. The spelling *H*, *Ω*, which was being employed in these dialects for the reproduction of the local universal long ē, ḍ especially after the adoption of the Ionic alphabet, does not prove anything, for in the Attic-Ionic area there existed no vowels of the mid position, in those times, and for this reason the dialects disposing of only one ē, ḍ had to choose from the Ionic graphic inventory that which was available there; now, it stands to reason that it was the spelling *H*, *Ω*,⁴⁸ which suited best their universal ē, ḍ, irrespective of what ē- or ḍ-quality the said spelling was reproducing in the Attic-Ionic dialects.⁴⁹

⁴⁵ See Note 79.

⁴⁶ Cf. already Brandenstein’s article discussed on p. 24.

⁴⁷ As for this set of problems, compare Schwyzer, *GG* I 343, and among the latest contributions particularly Adrados, *Emérita* 26, 249—310.

⁴⁸ It seems that in most of these dialects the other graphic ē- and ḍ-alternative, namely the employment of the more complicated graphic reproductions *EI*, *OY*, was unwelcome, apart from its complexity, also for the reason that most of these dialects had not yet experienced monophthongization of the diphthongs *ei*, *ou* at the time of adoption of the Ionic alphabet (cf. further pp. 80sqq.), so that the use of the spelling *EI*, *OY* had to remain reserved for the two above-mentioned diphthongs.

⁴⁹ It is, of course, true that besides Ionic also some other Greek dialects began to employ the signs *H*, *Ω* as early as in the archaic period (the former as well having, naturally, a vocalic

By way of conclusion one may say that Allen's method is in a certain sense really a kind of counterpole of Ruipérez's method. In contrast with the diachronical method of Martinet and Ruipérez—implying, naturally, the different dangers associated with their causal and teleological interpretation—a characteristic feature of Allen's attitude is his essentially synchronical approach to the systemic problems, an approach which avoided all the various interpretation stumbling-blocks, but forwent at the same time the various advantages of the retrospective diachronical view. In any case it is, of course, necessary to stress that some Allen's ideas—particularly those we have discussed here in detail—give interesting impulses to further investigation of the vocalic systemic situation in Greek dialects, even if the historical aspect is rather put aside in Allen's article.

So much it was necessary to say by way of introduction to the pioneer studies dealing with the vowel-system problems in Ancient Greek. At the same time we consider it proper to point out that in spite of concentrating our interest on the long-vowel problems in this work we have alluded in the introduction also to some phonemic questions pertaining to the short vowels, the main reason being the fact that most of the quoted research-workers deal with the long-vowel problems and the short-vowel problems simultaneously. Yet, for our own investigation, which we contemplate in this work, such combined research would not be advantageous. We have already indicated in our study of the development of the consonantal system⁵⁰ that it would be essentially wrong to try to analyze from the very outset a wider range of problems than such as could be properly dealt with if we want to prepare the ground for an all-round and as true and exact as possible classification analysis of Ancient Greek dialects. That is why we have first discussed in the above-mentioned work quite separately the problems of consonantal phonemics without trying systematically to delineate its relations to the vowel-system problems. Yet, at the same time we kept reminding the reader not to forget that the results of our isolated investigation of the consonantal aspect were but partial conclusions, which would later likely require different adaptation and revaluation from new standpoints.⁵¹

A logical parallel of our former systematic investigation of the phonemic problems of Greek consonants should surely have been a complete analysis of all phonemic vocalic problems known to us, and we actually wanted to devote the present work to this set of problems in all its complexity. The deeper, however, we plunged into

value in such cases), the dialects in question being chiefly those spoken in Thera and Melos (both signs), in Crete (sign *H* in the form of \boxdot), and in Corinth (the same sign in the form of *B*; see further Note 57). It is to be stated that neither this archaic application of the mentioned signs—Ionic including—was always uniformly associated with the open ē- or ö-pronunciation; thus, for instance, Thasos had in the oldest inscriptions sign Ω for the short ö and the long ð alike, while sign *O* was employed for the long ð.

⁵⁰ See Bartoněk, *Vývoj* 29.

⁵¹ See Bartoněk, *Vývoj* 124sq., 182.

the whirl of the vocalic systemic questions, the clearer it became to us that owing to their complexity, especially in the long-vowel sphere, it would be advisable to split the task into two parts, a systemic analysis of the short vowels and a similar study of the long vowels, while either of these two branches of research would have to represent a special section of our phonemic investigation. It is true that the line of demarkation drawn between the systemic long-vowel and short-vowel problems is not so sharp as the line separating the consonantal world from the vocalic world (thus e.g. we can hardly detach on principle from each other such phenomena as let us say the change of the Attic-Ionic long $\ddot{\alpha}$ to \ddot{u} from the analogical short-vowel change of $\ddot{\alpha}$ to \ddot{u}),⁵² but upon the whole we may say that the Ancient Greek long-vowel systemic development differed in quite a number of Greek dialects so distinctly from the systemic development of the short vowels that their differentiation in research work can be justified also from a quite practical point of view, and not only in the light of some theoretical reasoning starting from an a priori assumption of a generally substantiated difference between the long-vowel system and the short-vowel one; our approach means that an analysis will be undertaken of two partial vocalic subsystems that form together one higher organic system comprising all Greek vowels.

This, therefore, implies that while performing our investigation of the long-vowel systemic development, as we are contemplating it in this work, we shall have not only to keep in mind all the time the comparatively relative and provisional character of each of our conclusions—just as we have done it in our study of the consonantal system—but also, when discussing the single long-vowel systemic phenomena, to consider any corresponding parallels in the short-vowel area as may exist (see e.g. the Attic-Ionic change of both the long and the short $\ddot{\alpha}$ to $\ddot{\tilde{u}}$). When respecting the latter item of our just-indicated working programme, we may be guilty, to be sure, of occasional inconsistency by dealing in this work, expressly devoted to the long-vowel problems, now and then also with some short-vowel phenomena, yet, we believe that these instances will not be so numerous as to disturb in a major degree the basic character of this study of the long-vowel system only. On the contrary, we hope that the few preliminary comments of some short-vowel phenomena that may be found within the scope of the present study will serve as good starting points for our contemplated complex analysis of the whole set of the short-vowel phonemic problems, of which we intend to make in the future the kernel of the last chapter of our progressive phonemic classification analysis of the interrelations of ancient Greek dialects, supplementing it with a summing-up revaluation of all the hitherto acquired knowledge. The plan for this third and conclusive part of our phonemic investigation we namely conceive as follows: the third monograph should comprise, first of all, the just alluded-to systematic analysis of the short-vowel phonemic problems, next a mutual comparison of the results of the short-vowel analysis with those of the long-vowel analysis, then also

⁵² See Note 17.

an analogical comparison of the results of both the vocalic analyses with the before-published consonantal analysis, the last pages being reserved to a closing revaluation, summing up the significance of the dialectal phonemic differences with respect to the classification of Old Greek dialects in general.