

III

THE QUESTION OF THE PHONEMIC CHARACTER OF GREEK DIPHTHONGS

Before we can attempt to present a complete responsible synchronic-diachronical picture of the long-vowel system development in the Greek dialects, we must first take into consideration a number of partial problems, whose solution could render us a useful service in fulfilling our main task. First of all, we shall have to give a definition of what we actually mean with the long-vowel system; this implies primarily the question whether we can count in Ancient Greek with the occurrence of the so-called monophonemic diphthongs, which—when they are believed to exist—are generally directly inserted in the long-vowel system as its fully legitimate members. And further it will also be necessary to discuss from the phonemic point of view those phonetic changes in Ancient Greek whose accomplishment was more distinctly reflected in one way or other in the long-vowel systems of individual Greek dialects; the main item of this programme will be to enumerate and analyze those various sources that contributed to the origin of the long vowels of the \bar{e} - and \bar{o} -quality (including, above all, the different types of the compensatory lengthening, contractions and monophthongization processes, but also some more significant shifts within the long-vowel phonic system, such as the Attic-Ionic change $\bar{a} > \bar{\alpha}$, the non-Euboean Attic-Ionic change $\bar{u} > \bar{\bar{u}}$, the Elean tendency towards opening the primary \bar{e} in \bar{e} , etc.).

The first question, i.e. whether some of the diphthongs in Ancient Greek can be taken for monophonemic, has not been systematically treated until quite recently.⁵³ I tried myself to discuss this problem for the first time a few years ago in the article *Zur Problematik der phonematischen Wertung der altgriechischen kurzen Diphthonge*, *Sborník E 5* (1960), 85—88, and in it I spoke in favour of the view that the Greek diphthongs *ai*, *oi*, *ei*, *ou* had at least in some phase of certain Greek dialects the character of monophonemic diphthongs. The starting point of my argumentation were

⁵³ This question was treated just in margine by Brandenstein, *Griech. Sprachw.* I 74 and 77, but the two places display a contradiction: on page 74 the author ascribes only the short *i*-diphthongs a monophonemic character, while on page 77 we read a formulation producing the impression that Brandenstein took all the short diphthongs for monophonemic.

the indications of the gliding pronunciation of the diphthongs *ai*, *oi*, demonstrable from the 6th cent. B.C. in several Greek dialects. We mean cases when the original *ai*, *oi* is being represented by the gliding spelling *AE*, *OE* or even *OEI*, *AIE*:

a) Both the spelling *AE* and the spelling *OE* are found in the Boeotian Tanagra (cf. e.g. *Ἀβαεὸδδῶρος* Schw. 451 A₁₀⁵⁴ [Tanagra, post 426],⁵⁵ *Μοε(ρ)ιχο(ς)* l. c. 6), on Attic vases (*Ἀεῖθρα* Kretschmer, Griech. Vasenschr. 126, *Κροῖσος* l. c. 129), while either the former or the latter is documented in Ionia (*Ἀεάκης* Schw. 714₁ [Samos, VI med.],⁵⁶ in the Corinthian area (the spelling *AB*⁵⁷: *ΑΒθῶν*⁵⁸ = *Αἰθῶν* Schw. 122,6 [???, VI?]; the spelling *AE*: *ἈθαναΕα*⁵⁹ Schw. 123,14 [Corinth, VI?], *ΠεραΕόδεν*⁶⁰ Schw. 123, 12 [Corinth, VI?]), in Argolis (*OE*: *πρῶροε?* = *φρῶροι* IG IV 1611 [Lygourion, ?]) and later also in the Rhodian area (*AE*: *μαέας* GDI 4317₄ [Karpathos, I ?]).

b) The spellings *OEI* or *AIE* may be adduced from Corinthian area (*OEI*: *αὐτοπό(ε)ια* = *αὐτοποία* Schw. 123,4 [Corinth, VI ?]), from Ionic Samos (*AIE*: *Ἐλαιεαν* = *Ἐλαιαν* [Samos, 435], *καιε* = *καί* [Samos, 306]) and from Boeotia (*AIE*: *ἀναιερεῖ* = *ἀναιεῖ* [Chaironeia, III]).⁶¹

And secondly, when taking into account the well-known strong monophthongizing tendency of the diphthongs *ei*, *ou*, which must be taken for granted in a number of Greek dialects as early as before the middle of 1st millennium B.C.,⁶² we cannot alto-

⁶⁴ Dialectal inscriptions of the post-Mycenaean period we regularly quote, as far as possible, from Cauver's selection of Greek inscriptions adapted by Schwyzler (abbr. Schw.). As to inscriptions not contained in this publication we refer the reader either to *Inscriptiones Graecae* (IG), or to the edition by Collitz and Bechtel (GDI), or also to special publications and periodicals. Unavailable for me were unfortunately *Inscriptiones Creticae* by Guarducci and various publications of inscriptions from East Aegean Doric area.

⁶⁵ As to expressions taken from inscriptional texts of the post-Mycenaean period, each of them has in brackets dates giving both the place and the time of the respective inscription. If the inscription was found outside the territory of the dialect in question, it will also be stated. In reference to chronological statements it was, naturally, impossible every time to consider all the differing views of various authors, and numerous inscriptions have been chronologically fixed only on the basis of relative information (see e.g. Note 65). Consult also the List of Abbreviations on page 187sqq.

⁶⁶ A less evident instance is the Thasian *ἐποέεσε* GDI IV 2, 857, No. 27₄ [Thasos, VI ex.]; the same word is read in IG XII 8, 395₄ as *ἐπόησε*.

⁶⁷ Here we have to deal with the Corinthian local form of the sign *H*, this form being employed in the oldest Corinthian inscriptions for reproducing both the primary short and long *ē* — whereas sign *E* reproduced the long secondary *ē* irrespective of what phonic process had given rise to it. For the combination *a* + *e*, however, it was perhaps possible to use either sign, as can be seen from examples quoted by us.

⁶⁸ In some instances it is difficult to indicate the accentuation.

^{69, 60} Here we adhere to Schwyzler's transcription, who transcribes in the oldest Corinthian inscriptions sign *B* with small *ε* and sign *E* with capital *E*. Consequently even *ΑΒθῶν* will be transcribed as *Αεῖθῶν* in the following paragraphs.

⁶¹ Quoted from Schwyzler, *GG* I 194.

⁶² This problem will be dealt with in Chapter VI.

gether exclude the possibility of these diphthongs having the monophonemic character in each dialect concerned at least for some time before the realization of their monophthongization process. In this case, however, we can hardly employ the same sort of direct argumentation as it was the case with the diphthongs *ai*, *oi*. Both components of the diphthongs *ei*, *ou* were namely so near each other in articulation that we can hardly imagine another, "intermediate" spelling for rendering them, such as we find demonstrated in the spellings *AE*, *OE*, or *OEI*, *AIE*, in regard to the diphthongs *ai*, *oi*.

A somewhat different interpretation would likely require, on the other hand, the rather frequent Ionic documents of the spelling *AO*, *EO* in place of the expected *au*, *eu* (cf. e.g. *Εὐδοκίας*[*ης*] Schw. 724₂ [Miletos, VI], *φεόγειν* GDI5282₃ [the Athenaeon colony Amphipolis, IV], or the unusually frequent *ἀδοί* [from the 5th cent. B.C.]).⁶³ The mere fact, namely, that the ultimate outcome of the diphthongs *au*, *eu* definitely was, at least in the later stage of Hellenistic Greek, the pronunciation *a + v*, *e + v*, or even *a + f*, *e + f*, i.e. a doubtless polyphonemic pronunciation, seems to suggest that the polyphonemic interpretation of the spelling *AO*, *EO* is fully justified. In our opinion this spelling corresponded most likely just to the polyphonemic pronunciation *a + y*, *e + y*—that is to a pronunciation with something like semiconsonantal *y*, which was not yet transformed at that time into the labiodental *v* or *f*—the letter *O* being according to this hypothesis a kind of substitute of the sign *Y*, which, when "alone" (i.e. outside diphthongs), began to denote only the central \tilde{u} after the accomplishment of the Attic-Ionic (not Euboean, however) change $\tilde{u} > \tilde{u}$. Nevertheless, in both diphthongs the sign *Y* continued to play the leading part due to tradition, while *AO* and *EO* had only the function of alternatives, reminding us of another similar couple of spelling alternatives, i.e. of *AF* (= *ay* or *aw*), *EF* (= *ey* or *ew*),⁶⁴ whose occurrence is, to be sure, utterly impossible in the Attic-Ionic area proper, owing to the local early loss of the sign *F*, which was experienced in connection with the early Attic-Ionic liquidation of the phoneme *w*, yet the occurrence of the above *AF*, *EF* can be demonstrated e.g. by the Cretan $\acute{\alpha}\mathcal{F}\tau\acute{\omicron}\zeta$ GDI 4976₂ (Gortys, litt. vetust.)⁶⁵ and $\mathcal{A}\mathcal{F}\lambda\acute{\omicron}\nu$ Schw. 176_{3,4}} (Gortys, litt. vet.),⁶⁶ and by the Locrian

⁶³ The use of *EO* for *eu* can be demonstrated e.g. also in Corinth, Megaris, Crete, and in East Aegean Doric area, but these documents can as a rule be explained as a reverse graphic reflexion of the change *e + o > eu*; in contrast to it, in the Ionic area the said change cannot be demonstrated until from the 4th cent. B.C. onward, while the spelling *AO*, *EO* for *au*, *eu* was common here, as we could see, in the 6/5th cent. already.

⁶⁴ It should be pointed out that the transcription *w* stands here essentially for the same as in Classical philology the more current transcription *y*.

⁶⁵ The abbreviations litt. vetust. = *litteratura vetustissima* and litt. vet. = *litteratura vetus* were used here, for the absolute chronology of the Cretan inscriptions is often very difficult to ascertain more precisely.

⁶⁶ Cf. also *EF* in Cretan [$\acute{\epsilon}\lambda\epsilon$] $\mathcal{F}\theta\epsilon\epsilon\omicron$ GDI 4989₃ [Gortys, litt. vet.] and esp. $\sigma\pi\omega\mathcal{F}\mathcal{F}\delta\acute{\alpha}\nu$ GDI 5125 A₉ [Vaxos, litt. vetust.].

ΝαΨπακτιῶν Schw. 362₄₀ (Oiantheia, V pars pr.)⁶⁷ [cf. also the Pamphylian *ἄΜταῖσι* Schw. 686₇ (Silyon, IV pars pr.) with its *Μ = w*,⁶⁸ and the Acarnanian expressions with the local *∇*].⁶⁹ All this considered, we might after all express from the phonemic point of view the supposition that the assumed *u*, concealed in the second component of *AY/AO* and of *EY/EO*, was, in fact, in the Attic-Ionic region (except Euboea)⁷⁰ a combinatory variant of *o*—since there did not exist here any more the phoneme *u* from the 7th—6th cent. B.C.

This view of mine concerning the possible, even if both chronologically and geographically limited, monophonemic character of the diphthongs *ai, ei, oi, ou* I have several times expressed also in minor studies dealing with various single aspects of the development of the long-vowel system in Ancient Greek,⁷¹ including an essay on the possible existence of monophonemic diphthongs in Mycenaean,⁷² and I do not consider this view as lacking any foundation even today, after studying the thorough analysis of the complete set of the monophonemic and polyphonemic problems by W. Merlingen in his article *Über Ein- und Zweiphonemigkeit, Zeitschrift für Phonetik* 13 (1960), 98—176, all the less so since Merlingen refers in the quoted work to the phonemic problems of the Greek diphthongs only by way of marginalia, so to say, without any fully detailed analysis of their specific items. Yet, I have decided in this work, whose nature is synoptic, not to operate with the possibility of the monophonemic character of the Greek diphthongs *ai, ei, oi, ou*, for it would be, after all, very difficult to determine when at the latest these diphthongs—prior to their monophthongization—started transforming their originally polyphonemic character⁷³ to the monophonemic one, this circumstance implying the danger that we might apply what appears to us possible within a limited space of time in some Greek dialects inappropriately to a wider both geographical and chronological extent.—And besides, subsequent to Merlingen's analysis one feels more inclined to suppose that the gliding pronunciation of the diphthongs itself—even if verified—does not represent a quite safe proof of the monophonemic character of the diphthong in question.

This means that we intend—in accord with Merlingen—to ascribe hypothetically in this work to all the Greek diphthongs, whether the short *ai, ei, oi, au, eu, ou, vi*, [or *üi*], or the long *āi, ēi, ōi, āu, ēu, ōu*, the specific quality of two combined phonemes, the second of which is best to be looked upon as a semiconsonantal combinatory variant either of the vocalic phoneme *i* or of *u* (or maybe *o*),⁷⁴ immediately succeeding

⁶⁷ Cf. also the form *ἔΨθετ-* Schw. 123, 11 [Corinth, VI?]; Bechtel, GD II 217, reads, however, *ἔΨθετ-* here.

⁶⁸ See also Pamphylian *EM* for *eu*, e.g. in *ἔΜπρα[δα]* Schw. 686₂₁ [Silyon, IV pars pr.].

⁶⁹ Cf. Schwyzler, *GG* I 197.

⁷⁰ *EO* is documented also in the Athenasian colony Amphipolis (see Note 276).

⁷¹ See esp. Bartoněk, *Sborník A* 10; *A* 12; *Sborník E* 5; *E* 6; *E* 8; *Eirene* 2; *Charisteria*.

⁷² Cf. Bartoněk, *Minos* 8.

⁷³ See, however, p. 46.

⁷⁴ See above on p. 42sq.

a vowel (the semiconsonantal variant of vocalic *o* could, naturally, be taken into consideration only in those dialects that had lost their *u* by that time already, i.e. in the non-Euboean Attic-Ionic dialects). At the same time, however, we should like to devote a special attention—when following in this work the evolutionary changes in the long-vowel systems of the single Greek dialects—to those four short diphthongs, whose possible monophonemic character we have not altogether excluded, namely the diphthongs *ai*, *ei*, *oi*, *ou*, and we should like to do so especially for that simple reason that their liquidation is as a rule associated with a significant interference in the development of the long-vowel systems in the Greek dialects. Let us compare from this point of view those four short diphthongs with all the remaining diphthongs:

a) The original long diphthongs *āi*, *ēi*, *ōi*, *āu*, *ēu*, *ōu*⁷⁵ were in the course of time either transformed into short diphthongs (cf. e.g. *ποιμήν* < *pōi-*), that is to say, the number of phonemic units remains the same here even after this change, the only difference consisting in the fact that the last but one long phoneme is every time replaced by a corresponding short monophthong, or else—and this was mainly the case with the final *āi*, *ēi*, *ōi*—they were dropping their semiconsonantal component (cf. e.g. *ἱππῶ* < *ἱππωι*), that is to say, the number of phonemes got reduced by one, namely by the last phonemic unit.

b) The short diphthongs *au*, *eu*⁷⁶ got changed in the course of time into heterosyllabic combinations *a + v*, *e + v*, or maybe *a + f*, *e + f* (i.e. the number of phonemes remained the same, only the last phonemic unit—it was originally the combinatory variant of the vocalic *u* or maybe *o*—joined the labiodental spirantic phoneme in the course of time).

c) The short diphthong *ui* [or *üi*]⁷⁷ was in the course of time dropping its second component, this occurring either through the lengthening of the preceding *u* or *ü*

⁷⁵ As to long diphthongs in Ancient Greek, they all were beyond doubt polyphonemic in character.

⁷⁶ As to the most probably polyphonemic character of the diphthongs *au*, *eu*, see p. 42sq. Cf. also the fact that the two diphthongs are very often reproduced in prose by "heterosyllabic" spellings such as *EOY* (see, e.g., Corinthian *Ἀχιλλεύς* = *Ἀχιλλεύς* Schw. 121, 4 [Corinth, VII?], Ionic *Ἐὐρυσθένης* = *-εὐς* < *-εος* /Gen. Sing./ GDI 5711₃ [Samos, V?] and *Δεονύς* = *Δευ-* [see Note to GDI 5685, 7], Hellenistic *ἱκετευσάσης* and *χαλκεούς* [quoted according to Schwyzer, *GG* I 197]), *EFY* (see, e.g., Cretan *ἀμεφύσσασθαι* GDI 4964₁ [Gortys, litt. vetust.] beside *ἀμεύσσονται* GDI 5090₃ [Lytos, litt. vetust.]), or *AFY* (see, e.g., Cretan *ταφύρος* GDI 4963₂ [Gortys, litt. vetust.] and [d] *φυτάν* GDI 4971₂ [Gortys, litt. vetust.], Cycladic *ἀφυτῶ* Schw. 760 [tit. Naxius Deli repertus, VI], Attic *ἀφυτῶ* Schw. App. I 2₄ [VI med.]). The same significance is to be attributed even to the hypercorrect reproducing of the heterosyllabic *e-ü* by *EY* instead of *EOY* (see, e.g., Delphian *ποιέουσα* Rüsck I, 139sq., Ionic *Μενέλαος Φιλοκλέυς* = *Μ. Φιλοκλέυς*, or *Ἀρμόδιος Τειμοθέυ* = *Ἀ. Τειμοθέου* TAM II 550/51 [quoted according to Schwyzer, *GG* I 197]).

⁷⁷ As for the seventh Greek short diphthong *ui* or *üi* (this pronunciation is attributed to dialects in which *ü* changed into *ǖ*, i.e. to the non-Euboean Attic-Ionic dialects), it occupies

(thus the number of phonemes got reduced by one, while the last but one phonemic unit—i. e. the short *u*, or maybe *ü*—was replaced by a corresponding long monophthong), or without that lengthening (the number of phonemic units got in such cases simply reduced by one unit).⁷⁸

The short diphthongs *ai*, *ei*, *oi*, *ou*, on the other hand, got transformed into long monophthongs in a quite different way: here they originated, as to pronunciation, some new quality, so that in this case we cannot speak, let us say, of a mere loss of the 2nd component: *ai* changes into open \bar{e} , *oi* into central \bar{i} , while *ei* and *ou* into close \bar{e} , \bar{o} , the sometimes presupposed close character of the Greek short \acute{e}/\acute{o} being, as a matter of fact, quite undemonstrable.⁷⁹

To be sure, also in these cases—provided we ascribe with Merlingen the biphonemic quality even to *ai*, *ei*, *oi*, *ou*—the total number of phonemic units got reduced by one. In contrast to paragraph c), however, this reduction consisted in the fact that the place of two short-vowel phonemic units was now occupied by a single long-vowel phoneme, which was, as to quality, different from any of the former short-vowel phonemes.

In this connection we have to state that the introduction of substitutes for the diphthongs *ai*, *ei*, *oi*, *ou* in the long-vowel systems of the single Greek dialects was by no means so simple and uniform as the analogical process during the liquidation of the other Greek diphthongs, let alone the fact that the accomplishment of the *ai*, *ei*, *oi*, *ou* monophthongization changes frequently and considerably varies in the different dialects as the chronology of these changes is concerned.

All these facts have induced us to take the following precaution: in our schematic

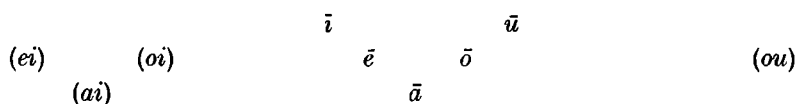
among the Greek diphthongs a special position, determined both by the secondary origin (i.e. purely Greek) of this diphthong, and by its comparatively small functional loading and small stability, all these things indicating that this diphthong hardly was an independent phoneme.

⁷⁸ The necessary documentation may be found in Schwyzler, *GG* 199sq.

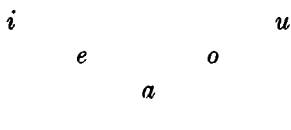
⁷⁹ The main argument that is usually offered in support of this view maintains that the short \acute{e}/\acute{o} gives rise through compensatory lengthening or through the *e+e*, *o+o* equivocalic contraction to the close long \bar{e} , or \bar{o} in a number of Greek dialects. (Cf. our discussion of the quoted Allen's article above on page 36.) In our opinion the very circumstance that the above-mentioned phenomenon occurs in one group of Greek dialects only is of extraordinary importance. We shall be able further in this study to explain more in detail that the "normal" outcome of both changes concerned was in fact \acute{e}/\acute{o} of the mid quality, while at the cradle of the close \bar{e}/\bar{o} there stood in the Greek dialects concerned a special systemic isogloss, which asserted itself for the first time about 1000 B.C. in the neighbourhood of the Corinthian and Saronic Gulfs, and later went on spreading to other Greek regions, since due to the origin of new phonic \bar{e} - and \bar{o} -realizations the up-till-then existing universal \bar{e} and \bar{o} grew less and less capable to absorb all these realizations. Cf. especially chapters IV—VI and X of this monograph.— At best it may be admitted that it was only somewhere about 1000 B.C. that there existed in the area of the Corinthian and Saronic Gulfs a group of Greek dialects with short close \acute{e} -, \acute{o} -sounds, which *may* have contributed towards the origin of a parallel long \bar{e} , \bar{o} through the so-called first compensatory lengthening—yet, concrete documentary material in support of this supposition is missing. For a later period, on the other hand, such explanation appears fully superfluous.

diagrams of the long-vowel systems of the single Greek dialects we shall always put down in parentheses those of the four diphthongs which still existed in the respective dialect at the time concerned as resources of further prospective enrichment of the long-vowel system in question. If we namely did not do so and if we constructed our diagrams without such supplementary registration of these "associated" diphthongs, we should wage the risk that in these schemes there would now and then appear all of a sudden some altogether new phonemes (e.g. the Boeotian $\bar{\epsilon}$ in the first half of the 4th cent.), without the reader's knowledge that the phenomenon was, in fact, the outcome of the foregoing disappearance of some local diphthong (in the above case it was the Boeotian ai , which may have had for some time before its monophthongization the monophonemic character of ae , on the top of it, and thus may have actually belonged to the Boeotian long-vowel system of the period in question as its fully qualified member).

All this considered, we shall at first, therefore, characterize the proto-Greek long-vowel system, which is to be for us the starting point of the subsequent systemic stages in all the Greek dialects, with the following diagram (comprising, as an addition to Ruipérez's scheme, the four above-said "associated" diphthongs in parentheses):



The total number of the long-vowel phonemes in this system is five, and its outer aspect was likely a precise copy of the simultaneous short-vowel system, which evidently also comprised five short vowels likewise forming a triangle:



After these introductory remarks we may now begin with the systematic analysis of the phonemic problems of the long-vowel system in Ancient Greek. The plan of our work may be outlined as follows: the first few chapters we shall devote to the most important partial questions implied in this set of problems, and by doing so we shall try to lay a foundation for an ultimate description and evaluation of the entire dialectal differentiation development of the long-vowel system from the proto-Greek stage up to about 350 B. C., that is to say, the time when we can observe in the Greek dialects strong tendencies towards mutual dialectal levelling. We point out beforehand, of course, that we intend to devote systematic attention only to those long-vowel phonic changes whose systemic significance is beyond doubt, i.e. not, for instance, to diverse combinatory changes that do not produce any difference whatsoever in the system, neither to the various vocal assimilations and dissimilations, nor

to odd graphic peculiarities whose interpretation is uncertain; no more shall we consider here — a few cases excepting—changes that are sure to have occurred subsequent to 350 B.C., and, naturally, the phonetic short-vowel processes will neither be included in our treatment, provided they were not in a quite close relation to some parallel long-vowel changes.