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ON THE GREEK PHONEMIC (SUB)SYSTEMS

In our monographs *Vývoj konsonantického systému v starých řeckých dialektech*, Praha, 1961, and *The Development of the Long-Vowel System in Ancient Greek Dialects*, Brno, 1966, we attempted a few years ago to outline the development of the Old Greek system of consonants and of long vowels approximately down to the middle of the 4th cent. B.C. In a special study entitled *Reflections on the Ancient Greek Short-Vowel System*, SPFFBU E 12 (1967), pp. 133—151, we dealt with the problems of the short-vowel system as well. In each of these works we came to several conclusions of a more general character, while in the present study it will be our task to determine to what extent these partial conclusions may be joined into a higher systemic unit, i.e. to what extent we are at all entitled in Greek to speak about the development of one comprehensive phonemic system as some higher organic systemic unit that would comprize the results of a more or less parallel development in the above-mentioned three partial phonological regions — or whether we rather have to deal here with an altogether autonomous development of each of the said three regions, or maybe at least of the consonantal (sub)system and of the (sub)system of both long and short vowels.

The conclusions arrived at in the above studies may be summed up as follows:

A) As main classification factors in the analysis of the *consonantal system* we have pointed out in the *Vývoj* the following differentiation phenomena affecting major systemic complexes:

1) presence (or absence) of g e m i n a t i o n in substitutes for the proto-Greek *rj*, *mj*, *nj* (see the Thessalian-Lesbian *ϱϱ*, *μμ*, *νν*, e.g. in *φθέϱϱω*, contrasting with the compensatory lengthening[1] in the other dialects, which have *φθείϱω* or *φθήϱω*); and *rs/sr*, *ls/sl*, *ms/sm*, *ns/sn*, *ln*, *sw*, (cf. Thess.-Lesb. *ἔμμι* with *εἰμί/ἦμί* in the other dialects); as for the substitute for *lj*, a great majority of Greek dialects has *λλ*, while it is only Cyprus—besides the isolated Elean *αἰλότϱια* — that has epenthesis here;

2) presence (or absence) of early tendency to accomplish s p i r a n t i z a t i o n of the voiced consonants *b*, *d*, *g* into *β̌* (= *w*), *đ*, *γ/j* (the tendency appears to be demonstrable in the 6th-5th cent. B.C. already in several Greek dialects).

[1] But after *a*, *o*, *u* the so-called epenthesis seems to have taken place in all Greek dialects; cf. most recently *M. S. Ruipérez*, Le dialecte mycénien, Preliminary Reports of the Vth International Colloquium on Mycenaean Studies, Salamanca 1970, pp. 89—112, esp. pp. 96ff.

These two differentiation phenomena may be amplified on the basis of the analysis in the *Vývoj* by a few other systemic differences, particularly by the *frequent* tendency towards a liquidation of *h-* and *w*, by the differing development of the substitutes for the proto-Greek consonantal combinations of explosives with *j*, and the like. All these are, however, phenomena that cannot be inserted in major systemic complexes without some difficulties. The tendency to liquidate *h-* and *w* may perhaps be associated partly with the early and *universal* Greek tendency to liquidate *j* and to reduce the initial *s-* into *h-* as well as the primary intervocalic *-s-* into *-h-* (with its subsequent full liquidation), and partly with the later tendency to reduce even the secondary *-s-* into *-h-* (Laconia, Western Argolid, Elis, East Aegean Doric, Pamphylia, Cyprus), yet, it has not been possible so far to disclose here deeper systemic laws—because the picture of the geographic occurrence of these peculiarities is too varied, refusing to assume any sharper classification outlines, and often supplying us with rather vague documentation material.

Ad A 1: The first of the two differences, the gemination of all liquids and nasals, must in all probability be traced back before the beginning of the 1st millennium B.C.; it can be documented in Thessalian and Lesbian, i.e. in two dialects that had genetically been closely related, but which were without closer mutual contact since the beginning of the first millennium after the accomplishment of the post-Mycenaean colonization process from the European Aeolian areas in the direction of the North-West coast of Asia Minor. This chronological conclusion remains unaffected by the fact that we may *either* consider this gemination to have been an evitable stage in the early development of Greek dialectal world as a whole, while the rest of the dialects with the exception of Thessalian and Lesbian (thus also Boeotian, which was the third of the Aeolic dialects of the Classical Era) passed over it in the course of time by way of compensatory lengthening[2], *or* that we may hold the above-mentioned gemination for a specific Thessalian-Lesbian innovation that was accomplished only in North Aeolic (i.e. outside the Boeotian area), whereupon it spread over the sea to Lesbos and Aeolis in the course of the Asia Minor colonization.

Ad A 2: The early, i.e. the pre-Hellenistic spirantization of *mediae* lacked, in any case, the character of a uniform isogloss. The phenomenon is upon the whole safely documented with respect to the pre-Hellenistic linguistic development in Peloponnesian Elis and Laconia, in Central Greek Boeotia, further in Central Crete and in Pamphylia in Asia Minor, while in a less positive degree in Argolid, Arcadia, Corinthia and Rhodes. Thus the above geographic distribution hardly authorizes us to consider the phenomenon as a continuous isogloss, spreading from one centre. It is an all the more intricate problem since in none of the above dialects spirantization of all the three mediae can be documented side by side, so that we may rather have to deal with—particularly in cases of early manifestations of spirantization in the 7th-6th cent. B.C. (Olympia, Corinthian Phlius, Rhodian Camirus) — only the first signs of general linguistic tendency to weaken the occlusive articulation of the proto-Greek voiced explosives. The fact that the most weighty documents of pre-Hellenistic spirantization of mediae are often to be found rather in peripheral areas may in our opinion be best explained by the hypothesis assuming the above *tendency* to weaken the occlusive articulation of explosives displaying itself, in *general*, even if *potentially* only, throughout the entire Greek dialectal territory from a certain

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[2] Cf. *M. S. Ruipérez*, l. c.

time limit, while in the principal political and economic centres its realization may have been for the time being refuted as a too colloquial phenomenon. And it was only the gradual rooting of this tendency in the Attic linguistic usage, dated from the beginning of the Hellenistic Era, that secured favourable conditions for its final victory in the whole Greek world, as it was mirrored by the consequent shift of the original mediae to voiced spirants in Hellenistic Koine.

That in dialects without a documented early spirantization the regular use of *B*, *Δ*, *Γ* for *b*, *d*, *g* was not a matter of mere *orthographic* preservation of an older non-spirantizing spelling we may conclude from the fact that it was practically just in most of the spirantizing dialects (Elis, Central Crete, Laconia, and in a less positive degree in Rhodes and Boeotia) that the transformation of the affricate *dz*, originated from *dj*, *gj*, *j-*, into the explosive (*d*)*d* took place; in our opinion it was but another form of liquidation of the evidently unwelcome affricate *dz* (which was changing elsewhere into (*z*)*z* or was metathetized into *z*+*d*), the above liquidation of *dz* being simply achieved by its shift to the explosive position of (*d*)*d*, which in the said dialects some time before had been evacuated by the spirantization shift of the original *d* into *đ*.[3]

It seems, therefore, that the spirantization process was accomplished in the Greek dialectal world in two waves. First, as I believe, it asserted itself in some Greek dialects only, while it was occasionally associated also with the change of the affricate *dz* into (*d*)*d*, whereas from the 3rd cent. B.C. onward it gradually found footing in the entire Greek dialectal world after gaining predominance in the Attic dialect.

This hypothesis, acknowledging the *linguistic* reality of the pre-Hellenistic spirantization of mediae, strongly underlines the differentiation significance of this spirantization. In contrast to A 1, the spirantization dialects can in no way be joined into one block characterized by a continuous isogloss with one centre of its origin; here we rather have to deal with a loosely linked group of dialects, in which the potential spirantization tendency found its footing more or less independently, prior to 350 B.C. And for this reason also its relevance with respect to the classification of the Greek dialects is naturally to a certain extent limited.

On the basis of these two principal classification criteria the Greek dialects were divided in the *Vývoj* into the following three main groups in view of the history of their consonantal system: i) with gemination of liquids and nasals and without spirantization; ii) without both spirantization and gemination; iii) without gemination and with spirantization. At the same time, it is possible, either in conformity with our view expressed in the *Vývoj*, pp. 50 ff., to interpret the contrast of the geminating (*φθέρρω*) and of the non-geminating (*φθείρω*, *φθήρω*) dialects as an "elective" relation, springing from the common foregoing condition, or -e.g. with Ruipérez- to hold the gemination for a common archaic phenomenon, whereas the relation of the spirantizing to the non-spirantizing dialects is positively that of an *innovation* quality to the *archaic* one. And within the three above groups various auxiliary criteria were considered as well, criteria that were connected with the accomplishment of some other consonantal changes, mentioned before and rather secondary from the classification point of view.

After applying all the above viewpoints to our set of problems we found it possible to divide in the *Vývoj*, esp. on pp. 194 ff., all the Greek dialects into 18 syste-

[3] Cf. *A. Bartoněk, Vývoj* 90ff. and 160ff.

mic types, reprinted on pp. 248/9 of the present study. This survey supplies us with clear and concrete facts showing that about 350 B.C. already those old genetic dialectal links, whose acknowledgement has resulted into routine division of Old Greek into the Attic-Ionic, Arcado-Cypriot, Aeolic, and West Greek (i.e. Doric in the wider sense of the world) dialectal groups, were considerably disturbed.

B) The main *long-vowel* classification factor in our monogıaph *Development* was the origin of the second ē- and ō- pair of vowels in connection with the accomplishment of the compensatory lengthening or of the contraction (here we have to deal e.g. with the origin of the contrast between the primary ę̄/ǭ in *ἔθηκα, δῶρον* and the secondary ę̄/ǭ in *ἐφίλει, ἵππον,* as it is documented in the North-West dialects, Corinthian, Megarian, Argolic, the dialects from the East Aegean Doric islands and from the Doric Asia Minor, as well as in the Attic-Ionic area and in Pamphylian) in contrast to the identical quality of the vowel ē in *ἔθηκα* and in *ἐφίλη,* and of the vowel ō in *δῶρον* and in *ἵππω,* as it can be documented in most of the remaining Greek dialects.

This second -ē/ō- pair, i.e. the close ę̄ and ǭ, arose firstly about 1000 B.C. in connection with the accomplishment of the first compensatory lengthening of the type **esmi* > *ēmi* on the strip of territory stretching from Aetolia and the adjoining North-West regions, across Locris, Phocis, Corinthia, Megarid, and the Eastern Argolid, as far as the Attic-Euboean area, whereupon the phenomenon spread in the course of the Ionic colonization across the Cyclades to the Ionic area in Asia Minor. In connection with the contraction of the type *e*+*e*, *o*+*o* and with the third compensatory lengthening of the type *ksenwos* > *ksēnos* this significant systemic innovation penetrated later also to the Western Argolid, to the East Aegean Doric islands, to the Doric area in Asia Minor, and even to Pamphylia. Thus it appears to have been an important systemic transformation, spreading very likely from one centre somewhere in the area of the Corinthian and Saronic Gulfs. On the basis of this systemic peculiarity the Greek dialects were in the *Development* essentially divided into conservative dialects with five long monophthongs (*ī*, *ē*, *ā*, *ō*, *ū*) and the innovation dialects with seven long monophthongs (*ī*, *ę̄*, *ę̄*, *ā*, *ǭ*, *ǭ*, *ū*). Considering a number of further phonological phenomena (especially different phonological shifts, such as *ā* > *ǣ* > *ę̄* in the entire Attic-Ionic area, *ŭ* > *ŭ̈* in Attica, the Cyclades, and Ionia, *ē* > *ǣ* in Elis, and last but not least also the monophthongization of diphthongs), the whole Greek world was divided in the *Development*, p. 182 ff., from the viewpoint of the formation of the long-vowel system about 350 B.C., into 8 types, reprinted in the present study on pp. 250/1.

C) The main classification factor in the analysis of the *short-vowel system* in our article in SPFFBU E 12, 133—151, was the hypothetic difference between the dialects with an assumed closer articulation of the vowels *e*, *o*, *a*, i.e. the Attic-Ionic and West Greek (Doric) dialects, on the one hand, and the other dialects, i.e. Aeolic and Arcado-Cypriot, in which there are no traces of such articulation. It may have been a rather old genetic difference from a time closely succeeding the Doric migration, the hypothetic character of the above-mentioned phenomenon, however, hinders us in its full and free application to the Old Greek dialectal classification.

Apart from this systemic difference, whose import would be rather considerable if it were safely substantiated, we have to point out two other systemic differences, which, to be sure, affect only a minor part of the short-vowel system, but which have, on the other hand, a complete analogy in the long-vowel system. We have to

deal here first of all with the shift of the back *ŭ̄ > ŭ̃*, which was accomplished alike both in the short-vowel and the long-vowel systems, this taking place in quite identical geographic areas (Attica, the Cyclades, Ionia, but not Euboea), and also with the Elean tendency to open both the short and the long *ĕ̄* into *ă̆* (cf. e.g. the El. *γνδμαν = γνω̃μεν* [inf. aor.], *μἀ̆ = μή*).

From the analysis given sub C, supplemented with the discussion sub B, we may draw the conclusion that it is possible to point out certain parallels between the short-vowel and the long-vowel systems. This *parallel aspect* concerns here, however, only the *phonetic process*, which one or other of the phonological changes, accomplished in the two systems, was passing through, whereas the *general formation* of the two systems appears to have been as a rule an *autonomous development*. Thus the Attic *ū* was changed into central *ŭ̃* just as the short *ŭ* into *ŭ̃*, but because the Attic long-vowel system had had seven phonemes before already (*ī, ę̄, ę̨̄, ā, ǭ, ǭ, ū*), while the short-vowel system only five (*ĭ, ĕ, ă, ŏ, ŭ*), the above change in the long-vowel system transformed the existing systemic situation in that the close *ǭ* got now shifted to the free position of *ū*, while the open *ǭ* soon acquired the quality of the mid *ō*. Similarly the change of the Elean *ē > ǣ* soon after its realization resulted in an outstanding transformation of the five-phoneme Elean system (*ī, ǣ, ā, ō, ū*) into a six-phoneme one (*ī, ē, ǣ, ā, ō, ū*), as the secondary *ē*, originating later through the first compensatory lengthening (type **esmi > ēmi*), occupied the position of *ē*, released before by the change *ē > ǣ*, while the secondary *ō* resulting from the compensatory lengthening (type **bolsā > bōlā*) fused with the primary *ō*; on the other hand in the short-vowel system only the shift *ĕ > ă̆* was accomplished and the system preserved its five-phoneme type.

A complete outer conformity between the two vocalic systems is thus restricted only to those Classical Greek dialects in which the two systems preserved their archaic five-phoneme character, documented even in Mycenaean (*i, e, a, o, u = = ī, ē, ā, ō, ū*); this situation could be applied about 350 B.C. only to Arcadian with Cypriot, Lesbian, Laconian with Heraclean and Messenian, further to Cretan, Cyrenaean—and also to Argive, in which the seven-phoneme system got sonn simplified through interior changes back into the original five-phoneme system.

As far as the two *vocalic systems* are concerned, our conclusion will therefore be the following: both of them are loosely connected, particularly in that they often enable the parallel accomplishment of the same changes in phonic quality on both the levels of vocalic quantity, yet they are capable of being quite autonomous if some change affects only one of them. This degree of autonomy fully justifies us in comparing various Greek dialectal systems of either short or long vowels separately, while the ascertained conformities of the two systemic aspects display the character of more or less partial parallels, not penetrating the whole structure concerned.

In contrast to the two vocalic systems, where the possibility of certain parallels is given by the analogical *qualitative* articulation basis with differences in *quantity*, the relation of both these systems to the *consonantal system* displays fundamental disparity. This disparity manifests itself even in the fact that one and the same dialect may have a progressive long-vowel system of considerable advancement, while its consonantal system may maintain a comparatively archaic character (the North West dialects), or, on the other hand, it may display a distinct contrast between its progressive consonantal system and a conservative long-vowel system (particularly Central Crete, Laconia). Nevertheless, there exist also isolated cases of conformity in the degree of the progressive character in the two different systems. Thus it is

Table 1

Comparative Scheme of Consonantal Systems by 350 B.C.

1st type	*p* *t* *k* *b* *d* *g* *ph* *th* *kh*			*ss*	*s*	(ϛ/ʔ)	*w*	*r* *rr* *l* *ll*	*m* *n*	*mm* *nn*	THESS. (Pelasgiotis)
	p *t* *k* *b* *d* *g* *ph* *th* *kh*	*tt* *dd*			*s*	(ϛ/ʔ)	*w*	*r* *rr* *l* *ll*	*m* *n*	*mm* *nn*	THESS. (Thessaliotis)
	p *t* *k* *b* *d* *g* *ph* *th* *kh*			*ss*	*s*	(ʔ)		*r* *rr* *l* *ll*	*m* *n*	*mm* *nn*	LESB.
2nd type a)	*p* *t* *k* *b* *d* *g* *ph* *th* *kh*		*dz*	*ss*	*s*	(ϛ/ʔ)	*w*	*r* *l* *ll*	*m* *n*		NORTH-WEST, TARENTUM/HERACLEA, MESS., EAST CRETE
	p *t* *k* *b* *d* *g* *ph* *th* *kh*		*dz*	*ss*	*s*	(ϛ/ʔ)		*r* *l* *ll*	*m* *n*		CORINTH, MEG.
	p *t* *k* *b* *d* *g* *ph* *th* *kh*		*dz*	*ss*	*s/h*	(ϛ/ʔ)		*r* *l* *ll*	*m* *n*		EAST AEGEAN DORIC
b)	*p* *t* *k* *b* *d* *g* *ph* *th* *kh*		*ʔts* *ʔdz*	*ss* *z(z)*	*s*	(ϛ/ʔ)	*w*	*r* *l* *ll*	*m* *n*		ARC.
	p *t* *k* *b* *d* *g* *ph* *th* *kh*		*ʔts* *ʔdz*	*ss* *z(z)*	*s/h*	(ʔ)	*w*	*r* *l*	*m* *n*		CYPR.
c)	*p* *t* *k* *b* *d* *g* *ph* *th* *kh*			*ss*	*s*	(ʔ)		*r* *l* *ll*	*m* *n*		ION. (exc. EUB.)
	p *t* *k* *b* *d* *g* *ph* *th* *kh*	*tt*			*s*	(ʔ)		*r* *l* *ll*	*m* *n*		EUB.

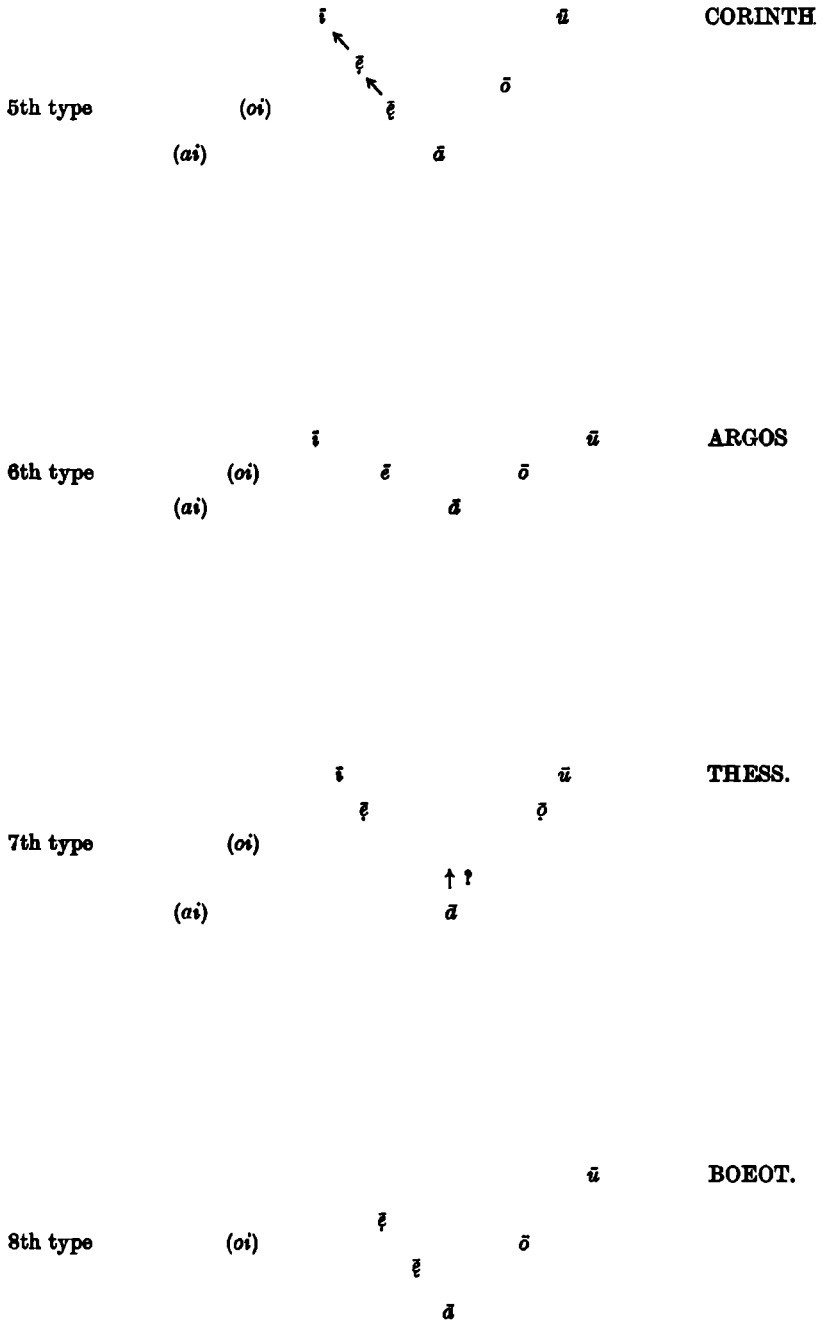
			p	*t*	*k*	*tt*		*s*	(ϛʔ)	*r*		*m*	ATT.
3rd type	*b*	*đ*	*γ|j*				*z(z)*			*l*	*ll*	*n*	
			ph	*th*	*kh*								
			p	*t*	*k*		*ss*	*s/h*	(ϛʔ)	*r*		*m*	ARG.
	b	*đ*	*γ|j*				*z(z)*			*l*	*ll*	*n*	
			ph	*th*	*kh*								
			p	*t*	*k*	*ts*		*s/h*	(ϛʔ)	*r*		*m*	PAMPH.
	b	*đ*	*γ|j*	*d*		*dz*				*l*	*ll*	*n*	
			ph	*th*	*kh*								
			p	*t*	*k*		*ss*	*s/h*	(ʔ)	*r*		*m*	ELIS
	b	*đ*	*γ|j*			*dd*				*l*	*ll*	*n*	
			ph	*th*	*kh*								
			p	*t*	*k*		*ss*	*s/h*	(ϛʔ)	*r*		*m*	LAC.
	b	*đ*	*γ|j*			*dd*				*l*	*ll*	*n*	
		θ	*ph*		*kh*								
			p	*t*	*k*	*tt*		*s*	(ϛʔ)	*r*		*m*	BOEOT.
	b	*đ*	*γ|j*			*dd*				*l*	*ll*	*n*	
			ph	*th*	*kh*								
			p	*t*	*k*	*tt* > *tth*		*s*	(ʔ)	*r*		*m*	CENTRAL CRETE
	b	*đ*	*γ|j*			*dd*				*l*	*ll*	*n*	
			ph	*th*	*kh*								
			p	*t*	*k*		*ss*	*s*	(ϛʔ)	*r*		*m*	WEST CRETE
	b	*đ*	*γ|j*				*dz*			*l*	*ll*	*n*	
			ph	*th*	*kh*								

Table 2

Comparative Scheme of Long-Vowel Systems by 350 B.C.

			ī			ū	ARC.-CYPR.	
							LESB.	
1st type	(*ei*)	(*oi*)		ē	ō	(*ou*)	LAC.-MESS., HERACL.	
							CRETE	
	(*ai*)			ā			CYRENE	
			ī			ū	ELIS	
2nd type	(*ei*)	(*oi*)	(ę̄)		ō	(*ou*)		
				ǣ				
	(*ai*)			ā ↗ ?				
			ī			ū	NORTH-WEST,	
							MEG., EAST ARG.,	
				ę̄	ǭ		EUB.;	
3rd type		(*oi*)					WEST ARG. (exc. ARGOS) ?,	
				ę̄	ǭ		EAST AEGEAN DORIC (exc. CYRENE),	
	(*ai*)			ā			PAMPH.	
			ī	ē		ū	ATT.-ION. (exc. EUB).	
				ę̄				
4th type		(*oi*)			ō			
				ę̄				
	(*ai*)			ā				

Continuation table 2



above all Boeotian, and also West Argolic, that are distinctly progressive in either direction, while on the other hand we find both systems clearly conservative particularly in Heraclean, Messenian, East Cretan and Arcadian (in the latter instances, to be sure, we have to deal with a preservation of the old situation in dialects developing in comparative isolation). Thus whereas we spoke about a loose relation of the vocalic and consonantal systems, while granting each an essentially *autonomous* character with the possibility of forming certain secondary parallels, we naturally hold the view that the Greek consonantal system in relation to either of the two vocalic systems was essentially an *altogether independent* systemic structure that underwent its formation quite separately.

K OTÁZCE VZÁJEMNÉHO SROVNÁNÍ STAROŘECKÉHO SUBSYSTÉMU KONSONANTICKÉHO, DLOUHOVOKALICKÉHO A KRÁTKOVOKALICKÉHO

Rozbor starořeckého hláskoslovného vývoje v různých řeckých dialektech ukazuje, že v staré řečtině nelze předpokládat existenci nějakého jednotného celohláskoslovného systému, jenž by měl charakter jednotné a plně ústrojné vyšší systémové struktury, zahrnující v sobě výsledky více méně paralelního vývoje ve všech zmíněných třech dílčích hláskoslovných oblastech. Lze tu zjistit pouze určité sekundární obdoby v některých vývojových fázích systému krátkovokalického a dlouhovokalického; ovšem celkové utváření obou těchto systémů probíhá zpravidla zcela autonomně. Tato míra autonomie nás také plně opravňuje srovnávat řecké nářeční systémy jednak krátkých vokálů a jednak dlouhých vokálů zcela odděleně od sebe. Pokud jde pak o poměr obou těchto vokalických systémů k systému konsonantickému, tu je třeba souhláskový systém ve vztahu k oběma systémům samohláskovým pokládat za principiálně úplně samostatnou systémovou strukturu, kterou nepojí s vokalickou oblastí žádné, byť sebemenší dílčí paralely.

К ВОПРОСУ О ВЗАИМНОМ СРАВНЕНИИ ДРЕВНЕГРЕЧЕСКОЙ СУБСИСТЕМЫ СОГЛАСНЫХ И СУБСИСТЕМ ДОЛГИХ И КРАТКИХ ГЛАСНЫХ

Анализ древнегреческого фонетического развития в разных диалектах доказывает, что в древнегреческом нельзя предполагать наличие какой-нибудь единой и общей системы всех звуков, которая носила бы характер целостной и вполне органичной высшей системной структуры, включающей результаты более или менее параллельного развития во всех трех упомянутых отдельных фонетических областях. Можно установить только известные вторичные аналогии на некоторых этапах развития систем кратких и долгих гласных; тем не менее, процесс образования обеих этих систем проходит, как правило, вполне автономно. Ввиду такой автономности вполне оправдано сравнивать в греческих диалектах, с одной стороны, системы кратких гласных, а с другой стороны, долгих гласных совершенно изолированно друг от друга. Что касается отношения обеих этих вокалических систем к системе консонантов, то необходимо систему согласных по отношению к обеим системам гласных считать в принципе вполне самостоятельной системной структурой, не связанной с вокалической областью никакими, даже малейшими частными параллелями.