

DISPUTATIONES

Notes to the Reconstruction of the Ancient Greek Pronunciation Offered by S. G. Daitz

S. G. Daitz undertook an enormous amount of work on the practical reconstruction of the ancient Greek pronunciation and of recording numerous audiocassettes containing the most famous texts by ancient authors. His attempt found the merited gratitude among his colleague-teachers as well as among those who study the ancient languages. Indeed, a language is no more dead when it is spoken, and it's very hard to catch the melody of the divine Hellenic speech when you have nothing at your disposal except the printed text.

However we may ask whether a reconstruction of a dead language phonetics is practicable at all. Would it be possible to speak a language, which had lapsed into silence many centuries ago? Even if one thoroughly studied all the theoretical investigations and managed to eliminate the interference of his mother tongue, he would not be able to avoid some serious mistakes in the pronunciation entailed by the absence of a reverse connection: there is no example to compare a record of his own voice and it's impossible to find a live native language speaker who is able (or – in case of perfect reconstruction – is not able) to point out the mistakes and the defects. And finally, shall we regard the reconstruction as “an example of the ancient Greek pronunciation” or, all the same, as an approach to it, which is undoubtedly valuable in respect of ancient Greek teaching methods and exceptionally interesting in the cognitive aspect?

I tried to answer these questions investigating the accessible audio materials with “SONA™”¹ and “EDS™”² software (the first one was used to deal with dynamic spectrograms and the second one was used to

¹ The information about SONA™ in Internet:
<http://www.ikp.uni-bonn.de/Phonetik/Sona/en/html>.

² “EDS™” (by St.-Petersburg University of telecommunications named after Bonch-Bruевич).

deal with oscillograms and intonograms) which are intended for a phonetic analysis of speech, as well as with several auxiliary computer programs which were specially created for the present investigation. Besides that several additional phonetic experiments were carried out (they will be discussed further). During the experiments the analyzed records were listened to by the audience, which they were created for – the students who study ancient Greek as well as by several philologists of other specialities (and also by several professional musicians).

During the above-mentioned computer analysis I thoroughly studied the following records: “The Pronunciation and Reading of Ancient Greek: a Practical Guide” (further – PG) and “The Iliad of Homer: Part 1. Books 1–6”.

First of all I simply watched if the author kept to his own rules (postulated in the “Introduction”) when fluently speaking at least in the introductory course. Then I compared the record of the “Iliad” with the “pattern pronunciation”. Of course, it is impossible to investigate the whole record in detail because of its enormous volume; so I analyzed only the extracts which seemed “suspicious” during the primary listening. Moreover, some supplementary audio materials were used: records of the Zhemajtian dialect of the Lithuanian language and also two audiocassettes with some training records of the Norwegian language (bokmål) for philological students.

I based on the theoretical researches represented in the book “Vox Graeca” by W. S. Allen³, for it was recommended by S. G. Daitz as a handbook for those who study the phonetics of ancient Greek.

It should be noticed that some articulatory mistakes are unavoidable in such reconstructions and impossible to be found out and estimated: when it is said that, for example, the sound designated by the letter “ρ” was pronounced like Russian or Spanish rolling [r] and the letter “λ” represented the so-called “middle European [l]”, how could the limits of this “like” be pointed out and how could it be taken into account, that the “middle European [l]” is an abstraction while real [l]s are different in different European languages? I am trying to point out those facts of articulation, which can be undoubtedly interpreted as mistakes and, hence, eliminated. Finally, an inevitable allowance should be made for the quality of the investigated records – the studio-made ones are not intended for a

³ W. S. Allen. *Vox Graeca* (Cambridge 1968).

detailed phonetic investigation (though they are good enough for the purposes they were intended for).

The Quantity of Vowels and the Accent

I consider this aspect of the reconstruction the most important one, for the melody of the ancient Greek verse cannot be caught without the thorough keeping to all the prosodic details – lengths and brevities, raising and lowering of the tone, keeping the difference between the two types of the accent and so on.

It's the alternation of long ("heavy") and short ("light") syllables that determines the rhythm of the Greek verse. A syllable containing a long vowel or a closed syllable containing a short vowel is "long" or "heavy", otherwise it is "short" or "light"⁴. That's why the reconstruction of long and short vowels is to be discussed first.

In "PG" S. G. Daitz recommends to articulate long vowels twice as long as short ones; and all the long vowels in the "basic course" are from two to two and a half times longer than the short ones. For example, the mean length of [a] in PG is 105 ms, while the mean length of [ā] is 226 ms. But in the analyzed extract of "The Iliad" recited by S. G. Daitz this difference between short and long vowels is often obliterated and the long vowels are of just the same (or almost the same) length as the short ones. We'll soon see that this inconsistency of keeping to vowel length makes it difficult to perceive not only Greek metrics, but also pitch accent of the ancient Greek language.

As far as the length of a diphthong concerned, it's always more than the length of a short vowel: the mean length of a diphthong is 260 ms in PG and 240 ms in "The Iliad". But sometimes the fluctuation of intensity within a diphthong shows its twin-humped structure (the intensity rises up twice during the sounding – on both components), though there is no reason to postulate the twin-humped structure of diphthongs for ancient Greek⁵.

⁴ Following the Indian Grammatists W. S. Allen offers the terms "light" and "heavy" syllables instead of "short" and "long" syllables because by their nature the length of a sound and the quality of a syllable are two completely different phenomena (W. S. Allen. *Vox Graeca*, 28).

⁵ In some cases within the investigated extract of "The Iliad" (though rather rarely) even long vowels (not diphthongs!) turned out to have the twin-humped structure.

As far as the quantity of a syllable concerned, I have to say that the case of a closed syllable containing a short vowel may cause some problems. Such a syllable becomes "heavy" only in case of the vowel intensity rising, that means the similarity of this vowel to a vowel under dynamic accent, which cannot be postulated for the ancient Greek language. Moreover, sometimes I met such a "dynamic" accent on short vowels in open syllables – unfortunately in the cases when a syllable should be stressed according to the "traditional" syllabic-tonic recitation. This intensity rising on the "heavy" syllables containing short vowels is observed, in particular, in cases when the penultimate syllable of the hexameter is "heavy" and contains a short vowel and the previous syllable has an acute accent:

- A 360 καί ῥα πάροιθ' αὐτοῖο καθέζετο δάκρυ χέοντος...
 B 608 Στόμφιλόν τ' εἶχον καὶ Παρρασίην ἐνέμοντο...
 Δ 26 πῶς ἐθέλεις ἄλιον θεῖναι πόνον ἢδ' ἀτέλεστον...

The verse endings of this sort are very frequent in Homeric poems. I have observed about 150 verses with such endings; in 76% of them the intensity of the vowel in the penultimate syllable is higher than of the vowels in the neighbouring syllables.

When a syllable is not "metrically marked out" (i. e. it has no accent according to the traditional recitation) a short vowel in a closed syllable is pronounced without any increase of intensity and so far is not distinguished from a short vowel in an open syllable which has no accent.

It should be noted that the above-mentioned mistakes in the pronunciation of short and long vowels and syllables (it's unnecessary to say that if a long vowel is not distinguished from a short one, the length of the syllables containing these vowels does not differ as well) are not very significant in every particular case, but in general they slur over the rhythm of the verse and make the perception of the text difficult.

It's remarkable that the increase of intensity in the heavy syllables containing short vowels often helps to perceive the melody of the verse, but it's possibly connected with the fact that we get used to distinguish the "long" vowels by dynamic accent on them when reading verse.

It's common that the accent in ancient Greek was musical, i. e. it was represented by the tone movement on the vowel under accent. Two types of this movement are distinguished – the acute and the circumflex accent (the ascending and the ascending-descending intonation). The acute accent means the ascending of the tone on the vowel under accent within a musical quint (when the vowel is short the tone ascends on the whole vowel,

when the vowel is long the tone ascends only on the second half of it). There should be no tone descending within the vowel under accent. The circumflex accent means tone ascending on the first half of the vowel under accent and tone descending on the second part of it. Obviously this transition from the ascending tone to the descending one was fluent like, say, in modern Norse (Bokmål) (though it should be mentioned that the musical accent is a late and secondary phenomenon in Norse) or in the Zhemajtian dialect of the Lithuanian language (but not as it is in Lettish where the transition is accompanied by a knacklaut).

Unfortunately there are many inaccuracies in reproduction of accents within the investigated records. First and foremost these inaccuracies are closely connected with non-compliance with long and short vowels, because it's obviously impossible to reproduce a circumflex accent on a short vowel (i. e. on a vowel pronounced as a short one by a mistake): the tone cannot descend within the vowel and therefore the circumflex accent is no more distinguished from the acute one. In this case the tone descends on the next syllable, like it is with the acute accent. The extracts of the text where a circumflex accent is not far from an acute one and their intonation patterns are the same seem to be the most demonstrative in the above-mentioned respect. However this phenomenon could be also observed with the long vowels and even with the diphthongs (in such cases the ascending of the tone connected with the circumflex accent is delayed until the second half of a vowel or a diphthong):

- A 87 Δαναοῖσι ... ἀναφαίνεις
- B 169 Διὶ μῆτιν
- Γ 154 πύργον ἰούσαν
- Z 21 βῆ ... Πήδασον.

The second considerable defect is the absence of tone descending after an acute accent, when all the following syllables of the word and sometimes even a part of the next word are pronounced on a high tone (it could be caused by the intonation of the phrase – in particular it's usual in the second part of a verse, – but it couldn't be so in all the cases):

- A 253 μετέειπεν
- A 393 περίσχεο
- B 248 χειριότερον βροτόν
- E 76 Εὐρύπυλος.

So, for the correct reproduction of the rhythmic pattern of an ancient Greek text it's necessary to:

1. Pronounce long and short vowels, observing the differences in duration and intensity as it was mentioned above

2. Observe the tone ascending on the proper part of the vowel within a musical quint (when the accent is acute) or the ascending-descending intonation (when the accent is circumflex), not forgetting about the following descending (resp. ascending) of the tone.

The above-mentioned defects are not very serious by themselves and can be easily eliminated; however it seems to me that their combination causes an essential damage to the final result and puts the adequacy of the reproduction of the text's rhythmic into doubt.

The Timbre of Sounds

Vowels

The reconstruction of the vowels proposed by S. G. Daitz generally corresponds to the theoretical theses of the Allen's book. Nevertheless I am going to make some remarks about the timbre of the vowels. It is said in PG that the letter "η" represents a long and open sound the timbre of which is [ē] ("open ē"), but in the record of "The Iliad" the letter "η" is mostly pronounced as [ā]. I have performed an experiment (though I don't pretend to be very strict in it) which clearly showed how the reconstructed pronunciation of ancient Greek is perceived by the listeners who aren't familiar with the printed text. Several extracts of the record including the sounds represented by "α" and "η" were listened to by philological students (three of them were specialists in English philology, four of them – in Russian dialects, one of them – in Balkan philology and one of them – in theoretical phonetics), who were native Russian speakers, and also by five specialists in Slavic languages from Germany and the USA (it's important that their mother tongue is other than Russian). All of them were not familiar with ancient Greek. The extracts were taken from the first book of "The Iliad"; namely they were the following ones: Πηληϊάδεω [A 1], διαστήτην [A 6], Λητοῦς [A 9], ἀνὰ σκήπτρω [A 15], ἀμφηρέφῃ [A 45], μαντοσύνην [A 72], μυθήσασθαι [A 74], ἠτίμησ' Ἀγαμέμνων [A 94], ἀπριάτην [A 99], ἀφαιρήσασθαι [A 161]. The people under test had to write down a transcription of the words they had heard. As a result all the people under test took the sounds represented by "η" for an English [ā] and said their quality was the same as of the sounds represented by "α"; only one of the people under test (a specialist in English

philology who has an absolute ear) said he "is not sure about [a] in the third word (Αητοῦς [A 9]); maybe it was [a] with a glide of [e]"⁶.

A thorough computer analysis of the spectra of the sounds confirmed that "η" is pronounced as [a]. The spectra of two hundred sounds represented by "η" (they were randomly taken from the record) had been thoroughly investigated. During the investigation the spectra were compared with the "standard" spectra of [ā] and open [ɛ̄], taken from PG. The comparison was made by a computer code, which determined the confidential probability of their coincidence. 200 sounds have been tested; 134 of them have been identified as [ā], 46 of them have been identified as open [ɛ̄] with more than 60% confidence in all the cases. So far I have to conclude, that "η" should be pronounced as a less open and more front sound than the one proposed by Prof. Daitz⁷.

The timbre of other vowels is reconstructed rather correctly; some difficulties were caused only by the timbre of the sound represented by "υ", which is possibly not labialized enough. However this supposition cannot be verified because the labialization of a tape-recorded sound cannot be well detected by the apparatus and one can rely only upon his own subjective sensations. Besides, in several cases "υ" is pronounced as [u], but it could be considered as a casual slip of the tongue in a flow of speech. Similar doubts were connected with some too closed [o]-sounds in the syllables under accent and with several cases when open and closed [ō] were confused.

The absence of spiritus asper on some initial syllables is far more important for distinguishing of the denotation. This occurrence happens too often to consider it as a simple carelessness in a flow of speech, though it should be mentioned that it becomes rare by the end of the record. It is the most frequent in the first book (A 4 ἠρώων, A 30 ἡμετέρω, A 31

⁶ During some similar tests aimed on the identification of other vowels the people under test with Russian (but not German!) as mother tongue were also not sure about the sounds represented by "ε" and "ο": the first were often identified as [i], and the second – as [u]. But this was not the mistake of Russian-speaking students only. W. S. Allen writes, "...The representation of Greek "ε" by Latin "i"... suggests only that the Latin "i" was about as near as "e" to the Greek "ε" (*Vox Graeca* 61). So in this case there is undoubtedly just the same disparity of phonemes in different languages.

⁷ It's remarkable that the students of classics, who listened to the record of "The Iliad", concluded that the text had been read with a Doric (i. e. [a]-dominating) accent.

ιστόν, A 48 ἔξετ', A 57 οἱ... ὀμηγερέες... total 53 cases), while I have found only three cases in the sixth book (Z 102 οἱ, Z 134 ὄπ', Z 230 οἶδε). It should be mentioned that the beginnings of a verse as well as articles, pronouns, prepositions and conjunctions like ὁ, ἦ, οἱ, αἱ, ὅς, ὡς, ὑπό, etc. are the places where spiritus asper is usually omitted by S. G. Daitz.

The Consonants

Our opinion is that most of the errors in the pronunciation of the consonants proposed by S. G. Daitz could be considered as an influence of the American variation of the English language. Namely, these are: affricated apical [t] (while the voiced variant is not affricated), voiced [s] in an intervocal -σμ- including morpheme junction position⁸ (that is how the combination -sm- is normally pronounced in the American – and partly in British – variation of the English language), and especially the slipshod distinguishing of aspirate and non-aspirate occlusives. The aspirated occlusives are observed with the absolute beginnings of words, especially before labialized vowels, and it does not depend upon the context, which is wrong. This phenomenon takes place not only in the record of “The Iliad”, but also in the training drill of the PG, where all the consonants in the consecutively pronounced combinations (for comparison) πν – φν, τν – θν, κν – χν are aspirate. Vice versa, within a word the aspiration disappears (the duration of high-frequency non-periodical oscillations after the opening of an occlusion does not exceed 30–40 ms). I suppose the reason of it to be the fact that the English occlusives are pronounced with aspiration at the beginnings of the words and are not aspirated at all within the words (this difference is an allophonic one in English, that's why it's difficult to correct this inaccuracy of pronunciation for one who is a native English speaker; however on the other hand S. G. Daitz calls some particular attention of the listeners to this difference).

Other errors in the pronunciation of the consonants are not numerous and are generally occasional. Only a little bit protracted pronunciation of the rolling apical (“Spanish”) [r] with 4–5 strokes, while 2–3 strokes are

⁸ Actually, in ancient Greek the phenomenon of [s] becoming voiced before sonants was observed, but, firstly, this occurred not only before [m], but before [n], [r] and [l] as well, and secondly, the phonetical phenomena connected with this process undoubtedly had already passed away by the time of recitation of Homeric texts.

pronounced in a usual speech flow, should be mentioned, though maybe it's done for some methodical aims. I also have to mention that the spiritus on the initial ρ - should not be pronounced: it is not the sign of an aspiration, but of the voicelessness of the initial sonant.

As it was shown above, the reconstruction proposed by S. G. Daitz (though it is rather valuable in methodical respect) is not free from defects, which are obvious even by comparison with the theoretical suppositions, to say nothing about the errors coming from the specificity of a dead language, which were mentioned above. Taking these defects into account I have to conclude that the investigated records of the ancient texts cannot be regarded as an example of well-founded reconstruction: they have to be seriously improved and further elaborated*

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В статье представлены результаты экспериментально-фонетического исследования практической реконструкции древнегреческого произношения, предпринятой проф. Стефеном Г. Дайтцем. Исследование выявило в произношении проф. Дайтца некоторые неточности (несоблюдение соотношения длительности долгих и кратких гласных, недостаточная дифференциация различных типов ударения, неразличение тембра отдельных гласных, отсутствие в ряде случаев густого придыхания на начальном гласном звуке), в том числе явные признаки интерференции американского варианта английского языка. Все эти погрешности позволяют заключить, что сделанные проф. Дайтцем записи классических текстов, безусловно представляющие интерес с учебно-методической точки зрения, к сожалению, пока нельзя рассматривать как отвечающую научным требованиям реконструкцию — они требуют дальнейшей шлифовки и доработки.

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