

NOTES AND DISCUSSIONS

TEXT AND INTERPRETATION OF *PHILEBUS* 56A

Plato *Philebus* 55e–56a:

ΣΩ. Οἷον πασῶν που τεχνῶν ἂν τις ἀριθμητικὴν χωρίζη καὶ μετρητικὴν καὶ στα- e
τικὴν, ὥς ἔπος εἰπεῖν φαῦλον τὸ καταλειπόμενον ἐκάστης ἂν γίγναιτο.

ΠΡΩ. Φαῦλον μὲν δῆ.

ΣΩ. Τὸ γοῦν μετὰ ταῦτ' εἰκάζειν λείποιτ' ἂν καὶ τὰς αἰσθήσεις καταμελετᾶν
ἐμπειρίᾳ καὶ τινι τριβῇ, ταῖς τῆς στοχαστικῆς προσχρωμένους δυνάμεσιν ἃς πολλοὶ 5
τέχνας ἐπονομάζουσι, μελέτῃ καὶ πόνῳ τὴν ῥώμην ἀπειργασμένας. 56

ΠΡΩ. Ἀναγκαιότατα λέγεις.

ΣΩ. Οὐκοῦν μεστὴ μὲν που μουσικὴ πρῶτον, τὸ σύμφωνον ἀρμόττουσα οὐ μέτρῳ
ἀλλὰ μελέτης στοχασμῷ, καὶ σύμπασα αὐτῆς αὐλητικὴ, τὸ μέτρον ἐκάστης χορδῆς
τῷ στοχάζεσθαι φερομένης θηρεύουσα, ὥστε πολὺ μεμειγμένον ἔχειν τὸ μὴ σαφές, 5
σμικρὸν δὲ τὸ βέβαιον.

a4 αὐτῶν Ven. app.cl. 4.54 : καὶ κιθαριστικὴ post αὐλητικὴ Ven. 189 :

a5 θηρευομένης D : φθεγγομένης Badham

The text and interpretation of the opening sentence of Plato *Philebus* 56a involve a notoriously intractable problem. The most elaborate recent discussion was that of Andrew Barker in his article “Text and Sense at *Philebus* 56a” in *CQ* 37 (1987): 103–9, and, as he there discusses in detail the interpretations and translations of Fowler, Hackforth, and Gosling, none of which he finds entirely satisfactory, I shall not cover that ground again. But I disagree also with Barker’s conclusions, and have three textual alterations to put forward. One of these I revive; the others are new.

First, what is it that music is full of (μεστή)? It is clear that Plato refers back specifically to this point subsequently, at 62c: ἧ καὶ μουσικὴν, ἣν ὀλίγον ἔμπροσθεν ἔφαμεν στοχάσεώς τε καὶ μιμήσεως μεστήν οὔσαν καθαρότητος ἐνδεῖν; The addition of μιμήσεως here is a little odd, as it was *not* mentioned in the earlier passage, but, quite apart from Plato’s familiar dislike of *mimesis*, this closely resembles another very similar criticism of music’s inaccuracy, at *Laws* 668a: οὐκοῦν μουσικὴν γε πᾶσαν φάμεν εἰκαστικὴν τε εἶναι καὶ μιμητικὴν, where εἰκαστικὴν recalls Socrates’ εἰκάζειν in *Philebus* 55e4, leading to the disparagement of music in the passage under discussion: τὸ γοῦν μετὰ ταῦτ' εἰκάζειν λείποιτ' ἂν καὶ τὰς αἰσθήσεις καταμελετᾶν ἐμπειρίᾳ καὶ τινι τριβῇ, ταῖς τῆς στοχαστικῆς προσχρωμένους δυνάμεσιν, ἃς πολλοὶ τέχνας ἐπονομάζουσι, μελέτῃ καὶ πόνῳ τὴν ῥώμην ἀπειργασμένας.

Surely Badham (in his second edition) was right¹ to reverse genitive and dative μελέτης στοχασμῷ, where the interpretation “guess-work of [= based upon] practice

1. Surprisingly however, he places commas after πρῶτον and after μελέτῃ στοχασμοῦ, as though they are somehow linked, nor does he refer to the reprise at 62c.

or habituation” is not a very convincing use of the genitive, and to read “music is full—adjusting as it does the concordant not μέτρῳ but μελέτῃ—of guess-work (στοχασμοῦ)”? Note also, of course, the dative μελέτῃ in the sentence of Socrates just quoted (*Phlb.* 56a1).²

My next, and most important, suggestion is to change πρῶτον, τὸ σύμφωνον ἀρμόττουσα to τὸ πρῶτον σύμφωνον ἀρμόττουσα. Here πρῶτον is not particularly necessary, and both Stallbaum and Badham in his first edition, feeling the want of a genitive in the vicinity of μεστή, suggested either reading τούτου for που or τοιούτων for πρῶτον. But my proposal, now that I have taken στοχασμοῦ as the genitive in question, is based on the fact that any lyre or kithara player tuning his instrument began by tuning two strings to the basic interval of the fourth, which is regularly called τὸ πρῶτον σύμφωνον, first establishing the note μέση, from which he would proceed to adjust the others. A key passage (curiously seldom referred to in writings about Greek music) is Dio Chrysostom 68.7: χρῆ δέ, ὥσπερ ἐν λύρᾳ τὸν μέσον φθόγον καταστήσαντες ἔπειτα πρὸς τοῦτον ἀρμόζονται τοὺς ἄλλους, εἰ δὲ μή, οὐδέποτε ἀρμονίαν ἀποδείξουσιν, οὕτως κτλ. And Aelian (*VH* 9.36) tells an anecdote about how king Antigonos instructed a kithara soloist to tune first the note *nete* (the uppermost of the usual scale) and *then mese*, whereupon the offended musician’s rejoinder was to express the hope that the king was never in such bad shape as to know better about music than he. (A similar story is a favorite of Plutarch in *Moralia* 67f, 179b, 334d, 634d, where it is told of Philip of Macedon, though less specifically about the initial lyre tuning, but generally περὶ κρουμάτων καὶ ἀρμονιών.) Well known are the passages in [Arist.] *Problemata* 19.20 and 36 about how *mese* to such an extent controls the other notes of the scale—καὶ ἡ τάξις ἡ ἐκάστης (sc. χορδῆς) δι’ ἐκείνην—that, when it is mistuned, the whole instrument and melody are thrown into confusion, as distinct from when a “wrong note” is played on any of the other strings. Plutarch too (*Moralia* 1009a) refers to the πρώτη καὶ κυριωτάτῃ δύνاميς of the note *mese*.

It is worth cataloguing the substantial number of references in the musical writers to the interval of the fourth as τὸ πρῶτον σύμφωνον, sometimes with the addition of the fifth and octave as τὰ πρῶτα σύμφωνα,³ or equivalent expressions, in order to show how regular this is, and how appropriate such a definition would be in *Philebus* 56 to describe how a kitharist set about preparing his instrument for performance. I list the authors in approximate chronological order.⁴

THE *DIA TESSARON* AS τὸ πρῶτον σύμφωνον

[Hp.] <i>Vict.</i> 1.8	Fourth, fifth, octave are πρώτη συμφωνία, δευτέρα, ἡ διὰ παντός.
Aristox. 1.21	Tone is difference between τῶν πρώτων συμφώνων of fourth, fifth.

2. Onosander (10.3) remarks how an experienced lyre player can play μελέτῃ easily what for beginners requires great effort.

3. Plutarch (*Moralia* 744c–45b) relates that the Delphians named the three Muses Hypate, Mese, and Nete; see also n. 13 below.

4. The references to the lesser *Musici Scriptores* are to the page numbers of Jan’s edition; references to Theon are to the edition of Hiller, to Ptolemy and Porphyry to those of Düring, to Bryennius to that of Jonker. Abbreviations of the names of authors and their works are as in LSJ.

- 2.45 Fourth is ἐλάχιστον, fifth δεύτερον, octave τρίτον (so too Cleonid. p. 194.3).
- 2.45 (p. 136) Fourth and fifth are πρώτοι σύμφωνοι.
- Plu. *Moralia* 1018a, 1019d 1139c τὰ πρώτα σύμφωνα (also ἐλάχιστον, μέσον, μέγιστον). τὰ κυριώτατα διαστήματα.
- Nicom. *Harm.* p. 252.6 Fourth is πρώτη σύλληψις φθόγγων συμφώνων.
p. 252.8 Fifth is joined to τῇ πρωτογενεῖ συμφωνίᾳ τῇ διὰ τεσσάρων. (N.B. these are embedded in a context referring to the fifth century Pythagorean Philolaus.)
p. 262.7 Fourth is τὸ πρώτιστον καὶ στοιχειωδέστατον σύμφωνον.
- Gaud. *Harm.* p. 338.9 (συμφωνίαι) πρώτη ἡ διὰ τεσσάρων, δευτέρα δὲ ἡ διὰ πέντε.
- Theo Sm. p. 51.19 Fourth, fifth, octave are αἱ πρώται συμφωνίαι.
p. 53.5 Tone is τῶν πρώτων καὶ γνωριμωτάτων συμφωνιῶν διαφορά.
p. 66.12 Fourth is ἡ κυριωτάτη συμφωνία.
- Ptol. *Harm.* p. 11.25 Octave is formed ἐκ δύο τῶν ἐφεξῆς καὶ πρώτων συμφωνιῶν.
p. 16.2–3 πρώτοι μὲν τῶν συμφώνων are fourth and fifth (also pp. 36.22, 40.15, 49.8, 60.3, 95.29).
p. 21.21 Fourth is ἐλαχίστη καὶ πρώτη συμφωνία.
p. 28.20 Fourth is τὸ πρώτον σύμφωνον.
- S.E. *adversus Musicos* 46 Of symphonic intervals, musicians call τὸ πρώτον καὶ ἐλάχιστον “διὰ τεσσάρων.”
- Porph. in *Harm.* p. 96.30 Pythagoreans called fourth συλλαβή, because πρώτη ἐστὶ συμφωνία συλλαβῆς τάξιν ἔχουσα.
p. 97.4 In the heptachord ἡ πρώτη σύλληψις τῶν δακτύλων κατὰ τὸ διὰ τεσσάρων ἐγένετο σύμφωνον.
- Alex.Aphr. in *Metaph.* p. 834.1 τῶν πρώτων συμφωνιῶν (usual three).
- Aristid.Quint. p. 102.24 W.-I. τὸ πρώτον ἐν μουσικῇ σύμφωνον ὅπερ ἐστὶ τὸ διὰ τεσσάρων.
p. 110.10 τὰ πρώτα σύμφωνα (as usual).
- Mart.Cap. 9.933 Symphoniae tres sunt, quarum prima est diatessaron.
- Manuel Bryennius p. 130.25 J. αἱ πρώται συμφωνίαι (fourth and fifth) make up the so-called ἁρμονία, viz. ἡ κατ’ ἀντίφωνον διὰ πασῶν συμφωνία (cf. pp. 128.24, 132.6, 146.27).

Having tuned from *mese* both *hypate* (a fourth down) and *nete* (a fifth up), which Plato (*R* 443d) calls the ὄρους τρεῖς ἁρμονίας (so also Plu. *Moralia* 744c, and cf. *Phlb.* 17d: τοὺς ὄρους τῶν διαστημάτων καὶ τὰ ἐκ τούτων ὅσα συστήματα γέγονεν), the player would proceed to tune the other strings from the pitch set up initially by *mese*—ἐκ γὰρ ταύτης καὶ αἱ λοιπαὶ εὐρίσκονται (Theo Sm. 66.12). This we know was done by the procedure called λῆψις διὰ συμφωνίας, tuning by the concords of the

fourth and fifth in order to “secure” the appropriate notes.⁵ On the old heptachord lyre based on the notes (in the so-called Dorian diatonic form) EFGABbCD, the two “conjunct” fourths linked by *mese* (A), downwards to E and upwards to D, would be tuned by μελετή (practiced experience) and rather superior to στοχασμός; but to fill out the octachord scale EFGABCDE⁶ further tunings would be more uncertain, and Aristoxenus 2.55 says that αἴσθησις can judge the size of the three σύμφωνος intervals more precisely than the διάφωνα. First, the player would mentally go up a fourth from his *mese* to fix D, and from there descend by a fifth to fix G. A further fourth up would produce C, and a descent of a fifth would produce F. From the upper E (*nete*), already fixed either by the octave from *hypate* or a fifth up from *mese*, he would then go down a fourth to complete the octave sequence with note B.

This tuning by the experienced kitharist would normally be done “by ear,” as we say, just as the modern violinist, having received the oboe’s tuning A, proceeds to tune the other strings in a series of fifths. But in the music schools where he had learned his techniques he would be familiar with the *kanon* or monochord, where measurement (μέτρον) of a string mounted on a board with a moveable bridge could determine the notes according to the ratios associated with the Pythagorean theorists. If the bridge were moved exactly half-way,⁷ the sound of either half would produce a note an octave higher than the whole string, hence the definition of the octave ratio as 2:1. Similarly the fourth (4:3) and fifth (3:2) would be determined by measurement marked on the *kanon*, and the notes confirmed by plucking. Then would follow the smaller intervals of tone, semi-tone, and, if the enharmonic intervals were being investigated, quarter-tones or *dieses*. These are the closely packed πυκνώματα about which Socrates is so sarcastic in the famous description in *Republic* 531, of acousticians putting their ears to the lyre strings as though eavesdropping on their neighbors at party walls, “preferring their ears to their minds.” The similarity of the subject matter of this passage to the one under consideration in the *Philebus* is accentuated by the use of the verb θηρεύομενοι in the former and θηρεύουσα in the latter.

This theme—the distinction of aural perception and reason and intelligence in the determination of intervals (ὥτα τοῦ νοῦ προστησάμενοι, as Plato says in the passage referred to)—occurs regularly in the musical writers. In Aristoxenus 2.33 the contrast is between ἀκοή and διάνοια. Theon of Smyrna distinguishes the *harmonia* that is αἰσθητή ἐν ὀργάνοις and νοητή ἐν ἀριθμοῖς (p. 47.17) and contrasts λόγοι and αἴσθησις (61.22), and the tone grasped by νόησις, ἀριθμοί, δι’ ἀκοῆς (71.1). Ptolemy several times (e.g., pp. 3.10, 21.25, 66.13) stresses the superiority of *logos* over *aisthesis*, and although at 20.14 he admits that *aisthesis* is perfectly capable of tuning a tone, he accepts that the *kanon* is superior in demonstrating the *logoi* of *symphoniai* (17.20). Porphyry in his commentary takes the same stance, referring to the gulf between the *mousikoi* who judged by *aisthesis* and the *kanonikoi* or *harmonikoi* of the Pythagorean tradition (23.6): ἀκοή is no use without *metron* (66.10), and although some combined *logos* and *aisthesis*, Pythagoreans firmly rejected the latter (25.9–13), and those who relied exclusively on αἰσθητικὴ τριβὴ acquired by συνήθεια (26.12). Plutarch too (*de Musica* 1144f) declares that Pythagoras rejected αἴσθησις and

5. See Aristox. 55.3; Plu. *Moralia* 1145b; Euc. *Sect. Can.* 17. The usage is found also in an unfortunately very fragmentary musical treatise in *Tebtunis Papyri* 3 (1933), 15–22.

6. ἥπερ μόνη Ἑλληνικὴ ἐστὶν ἁρμονία, Pl. *La.* 188d.

7. [Arist.] *Pr.* 19.12: καὶ τῇ διαλήψει δύο νῆται ἐν τῇ ὑπάτῃ γίνονται.

ἀκοή in favor of νοῦς. Aristides Quintilianus (p. 97.3) declares that Pythagoras on his death-bed exhorted his disciples to use the monochord because the highest excellence in music could be achieved νοητῶς μᾶλλον δι' ἀριθμῶν ἢ αἰσθητῶς δι' ἀκοῆς. Manuel Bryennius (*Harmonica* 2.6) attributes the invention of the *kanon* to the recognition of the deficiency of sensory perception unaided by the mind and the accuracy of mathematical ratios.

From all this, it seems to me certain that this passage of *Philebus* refers not to the actual *playing* of musical instruments, which immediately rules out old emendations of αὐλητική to αὐ πληκτική (van Heusde) or αὐ ψαλτική (Hermann), but to the initial *tuning* of a stringed instrument—hence of course the verb ἀρμόττουσα—which is the necessary preliminary to actual playing, and to the contrast of approximation by ear, and constant familiarity, with precision measurement. This might be achieved on the monochord with its bridges,⁸ but was not possible on the lyre or kithara, where tension of strings of similar *metron* accounted for difference of pitch—στρεβλοῦντας ἀπὸ τῶν κολλόπων, to quote *Republic* 531b.

I turn at last to the remainder of *Philebus* 56a. First, it is now generally agreed, I think, that the addition to αὐλητική of καὶ κιθαρστική in the later MS Ven. 189 is due to the fact that it was thought (rightly, as I shall go on to say) that surely the subsequent μέτρον χορδῆς must refer to a stringed instrument, not exclusively to the *aulos*.⁹ Barker, in the article referred to above (p. 274), makes the best of the difficult transition to the *aulos* (which of course Plato notoriously disliked) by supposing a change from the *tuning* of a lyre to the *playing* of the *aulos*, which could involve the player “lipping up or down” the reed during actual performance in order to play in tune.¹⁰ The participle φερομένης he thinks could refer to the slight passing variation of pitch during this “lipping” process, “shooting at it as the note moves.” I will propose however that we should continue to think of the *tuning* of the remainder of the lyre strings, once the basic σύμφωνα, the three ὅροι of *hypate, mese, nete*, had been established, and the λήψις διὰ συμφωνίας proceeded with, in order to complete the scale.

Recall that Nicomachus described “the first concord,” the fourth, as the πρώτη σύλληψις φθόγγων συμφώνων, based on the fact that the older name for what came usually to be called the *diatessaron* was in the Pythagorean tradition (he quotes the Doric form of Philolaus) συλλαβά, and the *diapente* δι' ὀξείαν.¹¹ Porphyry (96.30)

8. It is of course not possible to determine how much acoustical theory, apart from practice, was taught in fourth-century schools, and the earliest extant reference to the monochord (apart from the death-bed exhortation of Pythagoras quoted above) seems to be a fragment of Duris *FGRH* 76F23, but Plato, quite apart from his admiration of Pythagoras and Damon, was friendly with the leading theorist of his time, Archytas. Theon of Smyrna (71.4–10) scrupulously points out that even on the *kanon* the slight width of the bridge on being moved up and down the string will have a small effect on the length measured on either side of it. I am reminded of the *stochasmos* alluded to by Plato in the description of a monochordist calibrating his instrument in C. Sachs, *History of Musical Instruments* (New York, 1940), 270: “The monochordist shortens his string till the testing finger finds the desired spot.”

9. Dorothea Frede in her German translation of *Philebus* (Göttingen, 1997) includes κιθαρστική, although in her English version in the Hackett series (Indianapolis, 1993) she preferred to accept the interchange of μουσική and αὐλητική, which was first proposed by Bury in his 1897 edition, and read in the Budé edition of A. Diès.

10. I am reminded of the story of how Sir Thomas Beecham, when his oboist, a distinguished player who favored a wide vibrato, sounded the tuning A before a rehearsal, remarked to the orchestra “There you are gentlemen—take your pick!” Aristoxenus (*Harm.* 43.21) remarks how the intonation of the *aulos* μάλιστα πλανᾷται.

11. Cf. Bernay's brilliant emendation of [Hp.] *Vict.* 1.8: συλλήβδην διεξιὼν διὰ πασέων το συλλαβῆν, δι' ὀξείων.

says the name συλλαβή was used because πρώτη ἐστὶ συμφωνία συλλαβῆς τάξιν ἔχουσα, and at 97.4 he describes the actual grasp of the two strings with the fingers as ἡ πρώτη σύλληψις τῶν δακτύλων κατὰ τὸ διὰ τεσσάρων σύμφωνον. A musical interpretation of the enigmatic fragment 10 of Heraclitus was proposed in an article by K. M. W. Shipton (although she preferred, and defended, the variant reading συνάψις):¹² συλλάψεις ὅλα καὶ οὐχ ὅλα, συμφερόμενον διαφερόμενον, συνᾶδον διᾶδον, ἐκ πάντων ἐν καὶ ἐξ ἐνὸς πάντα. And I believe that the use of συλλαβεῖν in fragment 1 of Scythinus (who is known to have expressed Heraclitus' doctrines in his verses) also belongs to this concept of tuning the lyre's consonant notes: [the lyre] ἦν ἀρμόζεται / Ζηνὸς εὐειδῆς Ἀπόλλων πᾶσαν, ἀρχὴν καὶ τέλος / συλλαβῶν, ἔχει δὲ λαμπρὸν πλῆκτρον ἡλίου φάος. Here, the taking together of ἀρχή and τέλος referring to the lyre recalls [Arist.] *Problemata* 19.47 on the *mese* of the old heptachord lyre scale being at the same time the ἀρχή of the lower tetrachord and the τελευτή of the upper one, and also *Problemata* 19.33, where *mese* is the ἡγεμών and ἀρχή leading down to the τελευτή of the tetrachord. In Scythinus, Apollo the sun god with his plectrum¹³ has the same function as the sun as *mese* linking the two tetrachords of the heptachord in a fanciful passage of Nicomachus (p. 242, cf. 272), where he identifies each note of the scale with one of the seven planets, with *mese*/sun in the middle.

If then the establishment of the fourth was the πρώτη σύλληψις done by the lyre tuner, further "takings together" were then required in order to tune the other strings, and the process of λήψις διὰ συμφωνίας was duly followed in order to λαμβάνειν them.¹⁴ The most approximate of the other notes, as was mentioned above, were the διάφωνα, or the so-called "moveable notes"—in the octachord scale, that is, the notes F and G, C and D, lying between the "standing notes" E–A, B–E, which bounded the two disjoint tetrachords. These notes varied according to the adoption of a diatonic, chromatic, or enharmonic sequence, and although they were mostly termed κινούμενοι in the musical writers, as opposed to the ἐστώτες notes, it seems that they were once called φερόμενοι because of their variability. This usage is found in Euclid *Sectio Canonis* 165.4 and Bacchius 299.14, but most significantly, five times in Aristides Quintilianus (9.14, 22, 25; 14.14; 80.30), the last being an important reference to Damon, whose ethical views of music were so much admired by Socrates and Plato: ἐν γοῦν ταῖς ὑπ' αὐτοῦ [sc. Δάμωνος] παραδεδομέναις¹⁵ ἀρμονίαις τῶν φερόμενων φθόγγων ὅτε μὲν τοὺς θήλειες, ὅτε δὲ τοὺς ἄρρενας ἔστιν εὐρεῖν ἥτοι πλεονάζοντας ἢ ἐπ' ἑλαττον ἢ οὐδ' ὅλως παρειλημμένους, δῆλον ὡς κατὰ τὸ ἦθος ψυχῆς ἐκάστης καὶ ἀρμονίας χρησιμευούσης. I suggest therefore that in *Philebus* 56a τὸ μέτρον ἐκάστης χορδῆς φερομένης, which the tuner is "hunting for," means the pitch of each string that carries a "moveable" note,¹⁶ and I propose further that αὐλητική is simply a corruption of συλληπτική, the technique of taking together by σύλληψις

12. K. M. W. Shipton, "Heraclitus fr. 10: A Musical Interpretation," *Phronesis* 30 (1985): 111–30.

13. For the sun as plectrum, see also Clem. Al. *Strom.* 5.8.48, quoting Cleanthes. Plutarch (*Moralia* 745b) records the Delphic view of Mese as the name of the Muse guarding the region of the planets.

14. Other compounds of λαμβάνειν, λήψις (ἀπο-, δια-, ἐπι-) are much used of stopping strings for measurement on the *kanon*, e.g., [Arist.] *Pr.* 19.12: τῇ διαλήψει δύο νῆται ἐν τῇ ὑπάτῃ γίνονται; Theo Sm. 59.21: τὰς διαλήψεις τῶν χορδῶν. For κατάληψις of *damping* strings, see E. K. Borthwick, "ΚΑΤΑΛΗΨΙΣ—A Neglected Technical Term in Greek Music," *CQ*, n.s., 9 (1959): 23–29.

15. Note παρέδσαν again in *Phlb.* 17d of the συστήματα and ἀρμονία handed down by tradition.

16. Badham mentions this use of φερόμενοι, but adds "though a term in music it is quite inapplicable here." It receives the support of W. D. Anderson, *Music and Musicians in Ancient Greece* (Ithaca, 1994), 148–49, but he associates the term with the intonation of the *aulos*, not the *kithara*.

two strings and their notes. (The noun implied is *τέχνη*, just as *στοχαστική*¹⁷ was used on its own shortly before at 55e.) The preceding *αὐτῆς* would now have to mean “that part of it [sc. music] involving *συλληπτική*,” but I wonder further if the first two letters, *αὐ* alone, should be retained? Plato is fond of *αὐ* in a series,¹⁸ and I think particularly of the structure of a sentence in *Republic* 401a, where, after a reference to the lyre and kithara and the notes of *harmoniai*, there are mentions of Damon and a typical discussion of qualities such as *εὐλογία*, *εὐαρμοστία*, *εὐσχημοσύνη*, *εὐρυθμία*, followed by *ἔστιν δέ γέ που πλήρης μὲν γραφικὴ αὐτῶν καὶ πᾶσα ἡ τοιαύτη δημιουργία*, *πλήρης δὲ ὕφαντικὴ καὶ ποικιλία καὶ οἰκοδομία καὶ πᾶσα αὖ ἡ τῶν ἄλλων σκευῶν ἐργασία*. The sequence of letters *σύμπασα αὐ* ἡ *συλληπτική* that I propose hardly differs from the MSS *σύμπασα αὐτῆς αὐλητική*, and in a musical context it is hardly surprising that the last word should be corrupted to the commoner *αὐλητική*, to which Plato was so averse.

It may be thought surprising that Plato should so allude to the technical terminology of lyre tuning, but D. B. Monro, referring to *Philebus* 17b, once noted that the passage “has an air of technical accuracy not usual in Plato’s references to music (though perhaps characteristic of the *Philebus*).”¹⁹ And this is true also of references to lyre-playing practices in *Laws* (e.g., 812d), to say nothing of the mind-bending musical mathematics of *Timaeus*. We know too from Plato himself that Socrates had lessons from the distinguished kitharist Connus (*Euthd.* 272c, 295d, *Mx.* 235e), and also late in life from another teacher, Lamprus (*S.E. adversus Musicos* 13), preferring to be *ὀψιμαθής* rather than *ἀμαθής* in such matters.

I might conclude with a translation of this description of preliminary kithara tuning, with the textual changes that I have suggested above: “And so, I suppose, music is full—tuning as it does the first concord (the fourth) not by measurement but by practice—of guesswork; and so too with all taking together of notes, hunting for the pitch of each string carrying the moveable note by guessing, so that it is mixed with much that is uncertain, and little that is sure.”

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17. Plato’s liking for *-ικός* adjectives is well known. There is an outburst of a dozen of them in the sentences immediately preceding and following the sentence of *Phlb.* under discussion here, and also in *Xen. Mem.* 3.1.6 in Socrates’ mouth. Aristophanes parodies the habit at *Eq.* 1377–81, *Nub.* 483, 728, 1172–73. One easily forgets that even in the familiar *αὐλητική* the noun *τέχνη* is understood.

18. Examples in *Phlb.* alone at 17b3, 31e10, 32a2, 42b5, 43c5.

19. *The Modes of Ancient Greek Music* (Oxford, 1894), 55.

SPLENDIDIOR VITRO: HORACE AND CALLIMACHUS

O fons Bandusiae, splendidior vitro.
(Horace *Odes* 3.13.1)

In describing the waters of the *fons Bandusiae*, Horace employs an intriguing comparison: *splendidior vitro* (“more glimmering than glass”).¹ The comparison alludes to a phrase from the lost *Hecale* of Callimachus: *ὑάλιοιο φαάντερος* (frag. 18.2).² The

1. Or, less likely, “clearer than glass.” Transparency is the issue in *Carm.* 1.18.16, on which see n. 12, below.

2. All citations from the *Hecale* are from Hollis 1990.