Classical Quarterly **37** (i) 103–109 (1987) *Printed in Great Britain*

TEXT AND SENSE AT *PHILEBUS* 56a

56a3 (Socrates speaking) *Οὐκοῦν μεστὴ μέν που μουσικὴ πρῶτον, τὸ σύμφωνον ἁρμόττουσα οὐ μέτρῳ ἀλλὰ μελέτης στοχασμῷ, καὶ* 5 *σύμπασα αὐτῆς αὐλητική, τὸ μέτρον ἑκάστης χορδῆς τῷ στοχάζεσθαι φερομένης θηρεύουσα, ὥστε πολὺ μεμειγμένον ἔχειν τὸ μὴ σαφές, σμικρὸν δὲ τὸ βέβαιον.*

Editors and translators have found this paragraph troublesome. Though its general tenor is fairly clear it is not easy to interpret in detail, and the task is complicated by three points of uncertainty about the text. (i) Bury conjectured that *αὐτῆς* in 5 is misplaced, and should stand in 3 after *που*. (ii) After *αὐλητική* in 5, the second hand of Ven. 189 adds *καὶ κιθαριστική*: modern editors have often accepted this addition. (iii) In 6, *φερομένης* has been thought incomprehensible: Badham offered *φθεγγομένης* instead, and this suggestion too has found some favour.

The textual problems can hardly be settled in isolation: their resolution depends on a grasp of the exact meanings of certain phrases, and that is hard to come by. No translation I have met is altogether satisfactory. The difficulties can be brought into focus if we set out first the versions of three familiar translators, Fowler, Hackforth and Gosling, to whom I shall refer by their initials.

F. Take music first; it is full of this; it attains harmony by guesswork based on practice, not by measurement; and flute music throughout tries to find the pitch of each note as it is produced by guess, so that the amount of uncertainty mixed up in it is great, and the amount of certainty small.

H. Well now, we find plenty of it, to take one instance, in music when it adjusts its concords not by measurement but by lucky shots of a practised finger; in the whole of music, flute-playing and lyre-playing alike, for this latter hunts for the proper length of each string as it gives its note, making a shot for the note, and attaining a most unreliable result with a large element of uncertainty.

G. For a start, then, music is full of this, in so far as it determines which notes are concordant on estimates born of practice rather than by measurement. Of music all flute-playing falls into this category and lyre-playing, for it involves searching by guess for the proper point on each string as it sounds. Consequently there is a considerable admixture of imprecision, and little to rely on.[1]

I

Of the three, F. accepts the text as printed above, while H. and G. adopt both *καὶ κιθαριστική* in 5 and Badham's *φθεγγομένης* in 6. None explicitly follows Bury in moving *αὐτῆς* up to 3. But H. (p. 117 n. 1) explains that he takes the word as standing in for *τῆς στοχαστικῆς* (from 55e6–7) and as governed by *μεστή*, which is just what Bury hoped to secure by his transposition. It is plain that both F. and G. also translate as though there were an *αὐτῆς* (*τῆς στοχαστικῆς*) that *μεστή* governed. F.'s version, in fact, can hardly be allowed unless *αὐτῆς* is put into 3 and removed from 5, whereas G. seems to require an *αὐτῆς* in each place, with different references (*τῆς στοχαστικῆς* in 3, *μουσικῆς* in 5). Even H., despite his note, is most naturally read as taking *σύμπασα αὐτῆς* in 5 as *σύμπασα μουσικῆς*: but perhaps he means *σύμπασα μουσική*.

[1] F. is the Loeb translator, H. N. Fowler (1925): H. is R. Hackforth, *Plato's Examination of Pleasure* (C.U.P., 1945): G. is J. C. B. Gosling, *Plato, Philebus* (Clarendon, 1975).

I would argue that H.'s official view, without Bury's transposition, is the best. That is, μεστὴ governs αὐτῆς (τῆς στοχαστικῆς); but there is a purpose in delaying αὐτῆς. It signals the fact that μεστὴ . . . αὐτῆς attaches not only to μουσική in 3 but also to σύμπασα . . . αὐλητική in 5. The sense is 'Music is full of this . . . and so is the whole of αὐλητική'. This construal has the advantage of giving a simple and coherent syntax to the whole sentence, which is hard to find in those of F. and G. (it is hinted at in H.'s). It gives the well-ordered structure: 'Music is full of this, τὸ σύμφωνον ἁρμόττουσα . . ., as is the whole of αὐλητική, τὸ μέτρον . . . θηρεύουσα, so that . . .' It may be objected that this reading buys its syntactic neatness at the price of semantic absurdity, since it apparently makes Plato say first that all music is stochastic, and then, in addition, that a part of it is so too. Presumably this is why H. takes σύμπασα with μουσική, not with αὐλητική, and why both H. and G. seem to treat the second clause as an elaboration of the first, not as a new point. The objection has some force, but it can be met: I shall return to it later.

Before we come to the second textual point there are some interpretative issues in 3–4 that need attention. First, our three translators offer very different readings of τὸ σύμφωνον ἁρμόττουσα. Little can be made of F.'s rendering, which looks like an attempt at a non-committal paraphrase. G.'s is certainly wrong. The act of ἁρμόττειν τὸ σύμφωνον cannot be that of deciding or determining *which* notes are concordant, as though there were a pre-existing collection of sounds from which the musician had to choose: at a minimum it is that of *producing* sounds attuned in the proper relations. G.'s phrase suggests an intellectual or quasi-scientific enterprise of discovery, rather than the production of an audible result. H.'s rendering is much better: the musician adjusts or tunes his notes to achieve concordance.

That much is clear, but two interpretations are still possible. First, the phrase τὸ σύμφωνον may refer to the proper accordatura of a whole instrument, in which case Plato is probably thinking of the process of tuning strings prior to performance. Alternatively, τὸ σύμφωνον is the proper relation between any given note and its predecessors and successors in a melody: then the description will apply to a musician who is actually performing, seeking to keep the notes of his melody in tune with one another as he plays them.[2] Other things being equal, the first of these interpretations is certainly the more natural: ἁρμόττειν is typically associated with preliminary tuning

[2] In musicological sources the word σύμφωνος has a precise technical sense, 'concordant' by contrast with 'discordant' (διάφωνος). For definitions see e.g. Euclid, *Sectio Canonis* 149.17–20, Cleonides, *Eisagoge* 187.19, Nicomachus, *Enchiridion* 262.1, Bacchius, *Eisagoge* 293.8, Gaudentius, *Eisagoge* 337.8 (all cited by pages and lines of Jan, *Musici Scriptores Graeci*). Within the octave, only the fourth, the fifth and the octave itself were reckoned 'concordant', not thirds or sixths (see e.g. Aristoxenus, *El. Harm.* 20.1ff.). Though the tuning of an instrument to a scale (σύστημα, ἁρμονία), or the adjustment to one another of notes in a melody, involved the proper attunement of intervals other than these, particularly the smaller ones that subdivide the fourth, the tuning of the concords was fundamental, in three ways. (i) The so-called 'fixed notes', which provided the basic framework for any scale, stood in concordant relations to one another. (ii) According to Aristoxenus, the most important constraint on any melodic series was that as it descended or ascended by consecutive scalar steps from any given note, either the fourth note in order stood at a fourth from the given note, or the fifth note stood at a fifth, or both (*El. Harm.* 29.6–14, 53.33–54.21). (iii) In some important forms of tuning, e.g. that implied at *Timaeus* 35b–36b, every note can be found by movements of fourths and fifths up and down from a given initial note (the method of tuning 'by concordance', which is still in common use). See Aristox. *El. Harm.* 55.3ff., cf. Eucl. *Sect. Can.* prop. 17. Then in a passage like the present one it is possible to take τὸ σύμφωνον in its strict sense, not just vaguely as 'the melodically proper', even though the process referred to (whether tuning an instrument or adjusting melodic intonation) required the formation of non-concordant intervals too. For a similar hint of the centrality of concords to a musical system see *Rep.* 531c3–4.

rather than performance.[3] But for the present it will be best to leave the issue open, though we can offer a working translation. The verb's musical sense, derived from the basic notion of fitting something properly together, is 'attune', 'fit together' into a coordinated musical system (whether accordatura, scale or melody). The translation 'attuning the concordance', or less portentously 'getting the concordance in tune', is reasonably accurate and will admit either of our two interpretations.

Secondly, it seems clear that F.'s 'guesswork' and G.'s 'estimate' for στοχασμῷ in 4 are potentially misleading in a way in which H.'s 'lucky shots' is not. Certainly the musician does not *guess* at the correct intonation, whether he is tuning an instrument or playing it; and 'estimates' is once again too mathematical and intellectual in its connotations. The musician does something practical. He knows what he is aiming at, and makes an attempt at producing it through the skill he has gained from practice. It is true that H.'s 'lucky' is less than apt: the musician's success depends neither on calculation nor on mere luck, but on practice and habituation. Again, the 'finger' that appears later in H.'s version of the clause is pure embroidery. But the gist of the matter is conveyed better by H. than by F. or G., and H.'s terminology of 'shots' is felicitous, in view of the hunting metaphor that is coming. More of this below.

II

Let us turn to line 5 and the second textual problem. The reason why H. and G. accept the supplement καὶ κιθαριστική could hardly be clearer. The art in question, we are told, hunts for the μέτρον ἑκάστης χορδῆς, and as G. succinctly puts it in his note *ad loc.*, 'few flutes have strings'.

Suppose then that H. and G. are right to adopt the phrase. Perhaps it involves a slight awkwardness, since *ex hypothesi* it is then only to κιθαριστική that the subsequent participial clause applies, and Plato fails to tell us how his comments attach to αὐλητική. But this is hardly an objection. It is more important to notice a point mentioned earlier, that neither H.'s 'in the whole of music' nor G.'s 'of music' is warranted, if, as it seems, they both require αὐτῆς to do duty for τῆς στοχαστικῆς, not for μουσικῆς. The sense must be 'the whole of αὐλητική', so that F.'s 'flute music throughout' is more nearly right. The issue may seem insignificant, but it will turn out otherwise: Plato's claim that what he says applies to the *whole* of the art will have a real bearing on the overall structure of the passage, and will also generate difficulties for the policy of adding the phrase καὶ κιθαριστική.

But these points cannot be developed yet. We must first consider what the clause τὸ μέτρον . . . θηρεύουσα can mean, on the hypothesis that the subject is κιθαριστική. Here F. is irrelevant, since καὶ κιθαριστική is not in his text; and neither H.'s version nor G.'s will serve. Both seem to have in mind a form of string-playing in which the pitch emitted by a string is altered by movements of the fingers to change its sounding length, as on a violin or a guitar. Despite the conjectures of a few scholars,[4] there are no grounds for believing that such techniques were regularly used on the Greek *lyra* or *kithara*. The player's repertoire of notes was fixed by the tuning he had set before he began to perform, and all strings were played 'open'. At the very least, this was the norm. If 'stopping' was ever used, it was only rarely and for special effect,[5] and it can hardly be what Plato intends.

[3] See the passages cited in *LSJ* s.v. ἁρμόζω I.5.

[4] E.g. C. Sachs, *The History of Musical Instruments* (London, 1942), p. 132.

[5] For a possible example see my remarks in 'The Innovations of Lysander the Kitharist', *CQ* 32 (1982), 268.

Then since the string-player standardly made no alteration to the length or tension of his strings while he played, but merely selected the string to be plucked, the present clause seems inapplicable to any aspect of the kitharist's performance. But our discussion of τὸ σύμφωνον ἁρμόττουσα in 3–4 might suggest a different interpretation, that what Plato is describing is the process of tuning an instrument, not playing it. Even so we must not construe τὸ μέτρον as referring to the 'proper point' on a string or its 'proper length', for the strings of the *kithara* were tuned by adjustments of tension, not of length. The word μέτρον must indicate the 'measure', that which is proper or proportionate, directly in terms of pitch, not of linear dimension. The musician hunts, with his practised ear, for the sound that is in just the right relation to those of his other strings, neither too high nor too low. It is indeed because pitch and tension, unlike length, were not directly susceptible of precise measurement by means of technical devices (cf. 56b–c), that Plato's criticisms were inescapable: the musicians of his day were not merely being idle or prejudiced in failing to tune their instruments 'scientifically'.[6]

There is thus a way of making sense of this description as applied to κιθαριστική, though it is not that of H. and G. But we must ask whether the supplementary words are needed at all. Presumably the text as it stands without them counts as the *lectio difficilior* and should be accepted if possible, especially since the reasons why the doubtful words might have been added by a copyist stare us in the face. The problem is that wind instruments[7] have no strings. But the point is not decisive. It is not unknown for Greek writers to use χορδή for 'note', irrespective of the sound's physical source. Plato himself supplies a familiar example when he asks οὐ τοῦτο πολυχορδότατον; in the course of his attack on the music of the *aulos* at *Rep.* 399d.[8]

If αὐλητική is really the subject here, however, the phrase τὸ μέτρον . . . θηρεύουσα is much more likely to concern performance on the instrument than tuning. An aulete did indeed tune his instrument in advance of a performance, but only by adjusting the length of reed protruding from the bore to form his mouthpiece. It was scarcely a prominent part of his activity, and could not accurately be described as 'hunting out the μέτρον of *each* note': a single adjustment serves for the whole instrument. The aspect of tuning that would deserve that description fell into the province of the

[6] The phrase τὸ μέτρον . . . θηρεύουσα is strongly reminiscent of *Rep.* 531a4–b1, which speaks of people παραβάλλοντες τὰ ὦτα, οἷον ἐκ γειτόνων φωνὴν θηρευόμενοι, and seeking to identify by ear the σμικρότατον . . . διάστημα, ᾧ μετρητέον. Both passages focus on the unscientific 'empiricism' of certain people's practices, those in the *Republic* being described as ὦτα τοῦ νοῦ προστησάμενοι. In both cases what is 'hunted' is something purely auditory, not the correct length on a string (the *Republic*'s investigators adjust the strings' tension, ἐπὶ τῶν κολλόπων στρεβλοῦντας, 531b3–4: they are not marking lengths on a monochord). But beyond this the passages are not parallel. The χρηστοί of the *Republic* are theorists, not practical musicians. They search for a minimal interval ᾧ μετρητέον with a view to the formal representation of scale-systems (cf. Aristox. *El. Harm.* 39.4ff., and his references to his predecessors' diagrams at 2.11–18, 7.31, 27.34–28.6: on this μέτρον see Aristotle, *Metaph.* 1016b18–24, 1053a12–17). The μέτρον ἑκάστης χορδῆς in the *Philebus* is not an interval that acts as a common measure, but the correct pitch of *each* note, determined by the interval at which it stands from others in its musical vicinity (this need not, of course, be a *minimal* interval, nor is it the same size in every case); and those who search for it are real musicians, not theorists.

[7] May I renew the familiar plea that the mistranslation 'flute' be abandoned? If αὐλός needs to be translated rather than transliterated, perhaps we can settle for the harmless 'pipe'.

[8] I cannot produce an unambiguous case in classical literature where the noun χορδή must mean 'note' and cannot mean or imply 'string', though the later theorists quite often use χορδή and φθόγγος interchangeably, e.g. Arist. Quint. *De Mus.* 12.6. But a good parallel to the usage in the *Republic* is given by the phrase πολύχορδος αὐλός in Simonides, fr. 46 Bergk = Frag. Adesp. 947(b) Page.

αὐλοποιός or the αὐλοτρύπης and their drilling operations, not that of the aulete himself.[9] On the other hand, unlike the kitharist, the aulete was notoriously compelled to adjust the pitch of every note in the act of playing it. The pitch that such an instrument emits is not fully determined by the fingering, but depends crucially on such variables as the pressure of the player's breath and the position and tension of his lips on the reed.[10] On this reading of the text, then, F.'s version is not far out: the aulete is engaged in a continual and technically difficult pursuit of the μέτρον, the right pitch, for each note as he plays it. The uncertainty of the aulete's pitching and the dependence of his success on practical training, trial and error and moment-to-moment adjustments were obvious to everyone, and much more striking than the 'empiricism' of the kitharist's tuning procedure.[11] That counts a little in favour of the application of the description to αὐλητική rather than to κιθαριστική: so too does the fact that this reading allows Plato to be speaking of the major aspect of a musician's practice, his actual performance, rather than of mere preliminaries.

This interpretation does not require us to adopt the second and less natural interpretation of τὸ σύμφωνον ἁρμόττουσα, which would make it also refer to an aspect of performance and not of the tuning that goes on beforehand. On the contrary; and the structure of the passage is greatly improved if we do not. We noticed above that the syntactical reading I propose seemed to have an unwelcome consequence, that Plato first says something about music in general, and then says the same thing of one part of music, as though this were an additional point. 'Music is thoroughly stochastic...and so too is the art of the aulete (and perhaps that of the kitharist).' The phrase τὸ σύμφωνον ἁρμόττουσα..., however, is Plato's account of where the stochastic features of music in general lie. If we retain the first and better interpretation of these words, they lie in the processes by which all instruments are tuned, and on which the precision of their subsequent performance must depend. In music considered as a whole, that is as far as στοχαστική extends: but in one prominent area of musical practice it goes further. That is, in the case of the art of the aulete it is not limited to the initial tuning of the instrument, but infects the τέχνη in all its phases. The *whole* of auletic, σύμπασα αὐλητική, is stochastic, and in this respect it is in contrast with some other musical activities, notably κιθαριστική. The cases are not parallel, since kitharists, unlike auletes, do not adjust the tuning of their notes as they perform.

The sense of the conjunction of the two principal clauses is then clear and apposite. Music in general is full of στοχαστική, in that it always requires instruments to be tuned by a practised hand and ear, not by measurement. Furthermore, one important

[9] At Aristox. *El. Harm.* 43.1–6, the tuning of the strings of *kithara* or *lyra* (which would be done, or at least checked and adjusted afresh for each performance) is treated as parallel to the drilling of the τρυπήματα of the *aulos* (which was done once for all by the maker). Cf. e.g. Xen. *Symp.* 3.1: when an *aulos* and a *lyra* are to be played together, the tuning of the *aulos* is taken as fixed, and the *lyra* is tuned to it.

[10] See particularly Aristox. *El. Harm.* 43.10–24: indications of the specialised techniques used by fourth-century auletes are given in Theophrastus' account of reed-making, *Hist. Plant.* 4.11.1–7, especially 4–5.

[11] Aristox. loc. cit., arguing against those who base their account of correct scalar form on the physical structure of *auloi* (the spacing and arrangement of their finger-holes, etc.) says that it is astounding (θαυμαστόν) that they do not abandon their view, since it is absolutely plain that every note produced by such an instrument μεταβάλλει ⟨κατὰ⟩ τὰς αἰτίας ἀφ' ὧν αὐλεῖται. If the structure of any instrument is to be taken as authoritative in identifying the relations that correctly constitute τὸ ἡρμοσμένον (which it is not), at any rate the instrument cannot be the *aulos*, which is the least secure of all instruments in its pitching (μάλιστα πλανᾶται). On the other hand it must be granted that the difficulties involved in tuning a stringed instrument would certainly have been familiar to any Athenian who had been taught to play the *lyra* as part of his elementary education.

musical art, that of the aulete, is *wholly* stochastic, in that it has to hunt out the right tuning for each and every note (ἑκάστης χορδῆς) in the course of performance itself. The second clause, then, is not a lame redundancy but a genuine addition.

This gives two arguments against the adoption of καὶ κιθαριστική into the text. First, if σύμπασα governs αὐλητική and καὶ κιθαριστική follows, we would naturally expect σύμπασα to attach to κιθαριστική as well. But it is not to the *whole* of κιθαριστική that τὸ μέτρον . . . θηρεύουσα could properly be applied: it could refer only to the process of tuning, a subsidiary part of the art, and σύμπασα would be exaggeration at best. Secondly, if καὶ κιθαριστική is accepted and τὸ μέτρον . . . θηρεύουσα is restricted, after all, to tuning, the structure of the sentence collapses in the way described above. The whole of music, it will say, is stochastic, and so also are two parts of it, in precisely the same way that the whole is. The best we could do would be to assume that Plato is indulging in rhetorical repetition, placing καὶ σύμπασα . . . αὐλητική καὶ κιθαριστική, 'both the whole of auletic and kitharistic', in apposition to μουσική. The structure could then be: 'Music is full of στοχαστική, in that it attunes its concordances στοχασμῷ and not μέτρῳ – both the whole of auletic and kitharistic, in that they hunt out the proper pitch of each note (when tuning the instrument) τῷ στοχάζεσθαι – so that . . . '. This is possible. It involves a redundancy that my preferred reading does not, but that is perhaps only a marginal weakness. More importantly, it faces us with an unattractive choice. Either τὸ μέτρον ἑκάστης χορδῆς . . . θηρεύουσα belongs only to κιθαριστική, in which case the claim about αὐλητική is left unsupported; or it belongs to both, in which case the original reason for introducing καὶ κιθαριστική (that pipes have no strings) can no longer apply. Though I accept that the case is not fully proved, I suggest that the grounds for resisting the importation of καὶ κιθαριστική are strong.

III

The third textual point concerns φερομένης in 6. Can it be retained (with F.), or must we either replace it with Badham's φθεγγομένης (with H. and G.) or excise it altogether (an alternative suggested by G. in his note)?

Badham's emendation is attractive, but H. (in his note *ad loc.*) is quite wrong to say that no sense can be made of φερομένης. It can, and the word should be kept. Its precise nuance of meaning will depend in part on the attitude we adopt to καὶ κιθαριστική. If, despite my arguments, we decide to introduce that phrase, the topic is the tuning of a string, and the aptest sense, clearly, is that the kitharist hunts for the right pitch while the string is being 'moved', altered in its tension: he seeks to arrest the movement at the appropriate point.[12] If the reference is to αὐλητική, a closely related sense is available even though Plato will now be speaking of performance, not of preliminary adjustments. When an aulete plays a note, its pitch is not constant, but slides up or down with the variations in his lip-tension and breath-pressure: his aim is to hit on the correct pitch as it passes (φερομένης) and hold it steady, to arrest it in its flight, just like the tuning kitharist. This fits the known facts about αὐλητική and makes admirable sense. It is also worth noticing that both these interpretations allow Plato to be playing on a metaphor in a thoroughly characteristic and apposite way, which so far as I know the editors have not caught. The metaphor is that of shooting (στοχάζεσθαι) and hunting (θηρεύουσα), and the word φερομένης extends it neatly: the musician's prey is no sitting duck. (That it is difficult to pin down something in motion is of course a familiar Platonic theme.) The same metaphorical

[12] For a careful account of this see Aristox. *El. Harm.* 11.4–21.

intention can be accepted even if we opt for a weaker interpretation of φερομένης, construing it merely in the sense 'as it travels', 'in the process of its transmission': with F.'s 'as it is produced', though it is no doubt meant in this sense, the point disappears.

CONCLUSION

Our discussion has aired a number of puzzles without definitely resolving them all. I have indicated my preferences, however, and by way of a conclusion I offer my own translation, with a few explanatory reminders in parentheses.

In the first place, then, music is full of it (τῆς στοχαστικῆς), getting its concordance in tune (i.e. setting up the accordatura of an instrument) not by measurement, but by taking a shot at it on the basis of practice, and so too is the whole art of pipe-playing, hunting the proper pitch of each note (i.e. of each and every note during actual performance) by shooting at it as the note moves, so that it has a great deal of uncertainty mixed into it, and little that is sure.

University of Warwick ANDREW BARKER