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Monro on Greek Music *The Modes of Ancient Greek Music*, by D. B. Monro, M.A., Provost of Oriel College, Oxford. Oxford: 1894. (144pp.) 8s. 6d. net.

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STRABAX. *Ibitur, ne me morari censeas.* ASTAPHIVM. *Lepide facis.* But Schoell divides STRABAX. *Ibitur.* ASTAPHIVM. *Ne me morari censeas.* STRABAX. *Lepide facis.* His reason is that by Langen's canon *morari* in Plautus never = *cunctari*. This is true, but nevertheless the old division is right and *morari* is transitive with the object *te* omitted *more Plautino*. Keep then the old distribution and translate, 'I will go, lest you should think that I am keeping you here,' for which Astaphium thanks Strabax by the reply 'That's very nice of you.' It was Strabax who was detaining Astaphium, not *vice versa*: the thanks belong naturally to Astaphium, not to Strabax.

(2) v. 896. The soldier Stratophanes returns. He sees Phronesium and Astaphium and addresses them *quid hic vos agitis?* Phronesium angrily retorts *ne me adpella*. What are we to do with the next three words? BCD give *nimius evi*, LZ *nimum sevis, ilicet* is Schoell's conjecture. I would read *saevit*, take the three words together, assign them to Stratophanes and treat them as an aside. *Nimum saevit: ilicet*, 'she's very angry: it's all up.' Then Phronesium, who has commenced *ne me*

adpella, goes on naturally *potin ut mihi molestus ne sies?*

(3) v. 952. Phronesium is getting all she can out of Strabax and Stratophanes, who bid against one another for her favours. Strabax offers silver, Stratophanes gold, this will determine the distribution of the line. The gold Philippics belong to Stratophanes, *talentum argenti* to Strabax. Thus, to take the conjectures of Camerarius and Brix, Strabax will be made to say *Em tibi talentum argenti*, which Stratophanes outbids with *Philippicum aes est: tene tibi*.

To mix the gold and the silver and assign the whole line to the same speaker is impossible for any one who has read carefully what has gone before. The only real question is what we are to read at the end of the line, *i.e.* in what terms Stratophanes makes his offer.

Spengel and Langen object to *Philippicum* as non-Plautine, and Langen has shown that *Philippus*, not *Philippeus* is the more regular Plautine form. It will perhaps be best to read *Philippum hoc aes est: tene tibi*, but my point is the division of the line rather than the form of the adjective employed.

J. H. GRAY.

MONRO ON GREEK MUSIC.

The Modes of Ancient Greek Music, by D. B. MONRO, M.A., Provost of Oriel College, Oxford. Oxford: 1894. (144 pp.) 8s. 6d. net.

MR. MONRO'S book merits the serious attention of all students of Greek music. From the time of Böckh it has been the general assumption of scholars that the 'modes' of Greek music—the *ἀρμονίαι* familiar to readers of Plato's *Republic*—were, like the modern major and minor, scales distinguished by the order of their intervals, and that each of the seven degrees of the diatonic octave could and did form the final of such a scale. This thesis has been elaborately expounded by Westphal, Gevaert, and numerous other writers on the subject. Mr. Monro's object is to prove that the modes were nothing more than keys differing only in pitch, and that of modes in the modern sense one only was known to Classical Greek music, *viz.* a scale corresponding to the modern minor as played in descending from A to A, and represented by the standard 'Dorian' octave, extending from E to E,

but having for its tonic the 'μέση' (A). It will be seen at once how revolutionary Mr. Monro's work is; and there is no question that the author has marshalled the facts which he adduces as evidence with great skill, so that his argument is, *prima facie* a very telling one.

Putting aside for the moment the statements of Greek writers on music, to whom the appeal must ultimately lie, we may premise that there are two circumstances which create at the outset a prejudice against Mr. Monro's view, a prejudice which it is his business to dissipate by the most convincing proof that the ancient authorities can be interpreted only in the sense which he attributes to them. The first is the fact that although the trained modern ear can detect a certain difference of 'colour' in keys of different pitch (Helmholtz, *Tonempfindungen*, p. 476 f.), it is impossible to us to conceive of such keys as exerting so strong an influence on human sensibility and character as that attributed by Plato and Aristotle to the modes. How, we ask.

could a melody which in B♭ minor imitated 'the tones and accents of a brave warrior on the field of battle,' become, when transposed into D minor, a plaintive dirge, while in A minor it partook of a convivial character? This difficulty will perhaps appear to many insuperable, when every allowance has been made for possible changes in human sensibility. But although it creates a strong presumption against the correctness of Mr. Monro's view, it cannot absolve us from examining the positive evidence in its favour.

Beside this negative consideration, there remains the positive fact that the varieties of ἦθος attributed by the Greek philosophers to the modes are distinctly traceable in music which does not confine itself to the diatonic major and minor. This is true not only of the popular melodies of many nations, but especially of the plain-song of the Catholic Church, which is lineally descended from the music of Ancient Greece. It is sufficient here to refer to the admirable treatment of the subject by Gevaert in vol. i. of *La Musique de l'Antiquité*, pp. 166 ff., 200 ff. One instance will suffice. The ἁρμονία μεξολυδιστί, according to Plato, was plaintive and appropriate to the dirge. On the usual theory it corresponds to the fourth Gregorian mode (B natural), which is described by a writer of the eighteenth century as 'appropriate to feelings of compunction and sadness, complaint, prayers, supplications, lamentations, groanings.' Those who study the parallels drawn by M. Gevaert must feel that in them we have a body of evidence sufficient to predispose us strongly in favour of the current view of the modes.

We may now approach Mr. Monro's argument more closely. His method is in itself a good one. It consists in treating the passages or works of ancient authors dealing with the subject in chronological order, and interpreting them in their most natural sense. So far as the principle is consistently pursued we may safely trust its guidance, only remembering that the sense does not always lie on the surface, and that the beginning of a process cannot be interpreted with certainty without reference to its end. To deal adequately with the closely-woven web of Mr. Monro's argument would require a treatise following him point by point and section by section; but it is possible to select certain prominent theses and topics for discussion without doing him an injustice.

The earlier sections are directed towards establishing

(1) that the ἁρμονίαι of Plato and Aristotle did, in fact, differ in pitch, and, that the difference of ἦθος is connected by those writers with the difference of pitch;

(2) that the term ἁρμονία disappears from scientific writing after the time of Aristotle and is replaced (in the works of Aristoxenos) by τόνος, which certainly means 'key'; while the writers (such as Plutarch) who use both expressions treat them as convertible.

Both these points deserve to be carefully considered.

(1) Mr. Monro is successful in showing that different ἁρμονίαι were associated with different degrees of pitch. The Aeolian is called βαρύβρομον ἁρμονίαν by Pratinas; and in musical terminology certain modes—or rather varieties of the same mode¹—were called σύντονοι and χαλαραί (or ἀνεμμένοι), and these terms were connected with a difference of pitch, for Aristotle *Pol.* v. (viii.) 1340 b 20 writes, τοῖς ἀπειρηκόσι διὰ χρόνον οὐ ῥᾶδιον ᾄδεν τὰς συντόνους ἁρμονίας, ἀλλὰ τὰς ἀνεμμένας ἢ φύσις ὑποβάλλει τοῖς τοιοῦτοις. Nor can it be questioned that Plato and Aristotle, in their philosophical treatment of the ἦθος of the modes, seized upon these distinctions, and sought a parallel to them in ethical language. The 'loosely-strung' modes (χαλαραί, ἀνεμμένοι) were μαλακαί and affected the soul μαλακωτέρως. The 'highly-pitched' modes were plaintive in character. The Dorian and Phrygian occupied a middle place in pitch, and are therefore selected by Plato as occupying a mean between extremes, while Aristotle holds that the Dorian mode influences the mind μέσως καὶ καθεστηκώς.

The ἁρμονίαι, then, as usually executed, differed in pitch, and fell roughly into three groups. But though we learn from this that in practical μελοποιία certain ἁρμονίαι were associated with certain regions of pitch—a fact not denied by the supporters of the mode-theory (Gevaert i. p. 205)—we have as yet no positive evidence as to what the ἁρμονίαι were, and if such evidence can be found elsewhere, it must be allowed to decide the question.

But Plato and Aristotle, it will be said, explicitly connect difference of ἦθος with difference of pitch. It is no doubt true that they do fasten on the terms σύντονοι and ἀνεμμένοι, as well as on the central position

¹ Is it not clear that in Plat. *Rep.* 539 F the words ἰαστί...καὶ λυδιστί, αἵτινες χαλαραὶ καλοῦνται are equivalent to χαλαραῖασι καὶ χαλαραλυδιστί? This is not brought out either by Prof. Jowett's or by Mr. Monro's translation. σύντονονλυδιστί is mentioned a few lines earlier; the term σύντονονῖασι appears to have been replaced in use by μεξολυδιστί (Gevaert, i. p. 156).

occupied by the Dorian and Phrygian modes, and turn them to account in philosophical speculation: but how far they were here, as so often, following a *verbal* lead may be indicated by the following considerations:—

(a) In *Pol.* iv. 1290 a 19, Aristotle mentions the view that all modes were really reducible to two—Dorian and Phrygian—of which the rest were *παρεκβάσεις*. And this view he compares with that which saw only two right constitutions—oligarchy and democracy—the rest being likewise *παρεκβάσεις*, *ὀλιγαρχικὰς μὲν τὰς συντονωτέρας καὶ δεσποτικώτερας τὰς δ' ἀνειμένας καὶ μαλακὰς δημοτικὰς*—i.e. oligarchies were 'highly-strung' closely organized governments, democracies 'relaxed,' soft, disorganized. Is there any reason to suppose that while Aristotle here follows the verbal leading of the parallel, he (and Plato) neglected the same brilliant opening in the case of *ἦθος*?

(b) The parallel breaks down in practice. For Phrygian, although occupying a central position and therefore selected by Socrates, is rejected by Aristotle as *ἐνθουσιαστικός* (the same character is given by him even to the Hypo-phrygian in *Probl.* xix. 48, which should according to pitch be classified with the *μαλακαὶ ἁρμονίαι*), and it seems quite possible that Socrates indicates his consciousness that the parallel will not hold water by his feigned ignorance in reply to Glaukon—*οὐκ οἶδα τὰς ἁρμονίας, ἀλλὰ κατάλειπε κ.τ.λ.*

On the first head, therefore, Mr. Monro's proof seems inconclusive. Later authorities, such as Aristides Quintilianus, attribute a certain *ἦθος* to the various *τόποι τῆς φωνῆς* or 'registers' (see § 25), and we may admit that in composition the *τόπος* and therefore the key was chosen to suit the *ἁρμονία*, but this must not be allowed to prejudice the question as to what the *ἁρμονία* was.

(2) The identification of *ἁρμονία* and *τόνος*—which Aristoxenus no doubt uses in the sense of 'key' (*τοὺς τόνους ἐφ' ὧν τὰ συστήματα τίθεται*)—is difficult to maintain. It may be shown that Plutarch uses the terms loosely, so that e.g. in *De Mus.* 17 ἡ *δωριστὶ ἁρμονία* is afterwards spoken of as *ὁ δώριος τρόπος* (the later synonym of *τόνος*, cp. Monro p. 27), and in c. 19 appears as *ὁ δώριος τόνος*; but until the meaning of *ἁρμονία* is settled it must remain an open question whether Plutarch erroneously applied the terms *τρόπος* and *τόνος* to an *ἁρμονία*, or whether the three are really identical.¹ Mr. Monro presses the argument

that as Plutarch states that the tetrachord hypaton was omitted in the *τόνος δώριος* in order to preserve the *ἦθος*, and as the *τόνος δώριος* clearly means the *δωριστὶ ἁρμονία* of which P. has lately been speaking, the essential element of the scale must have been its pitch. But we must point out that no support is lent to this latter view by the context of the passage quoted, since the omission of *τρίτη* and *νῆτη* in the *τρόπος σπονδαϊκός* and the use of the *νῆτη συνημένων* in the same scale as well as in the Phrygian mode are carefully explained in a manner which leaves no doubt that considerations of tonality in the modern sense and *not* of absolute pitch were the cause of the restrictions. No doubt Plutarch means that the tonality of the Dorian scale on which its effect depended was more clearly felt if the compass of the melody was not extended below the melodic final (E).

Mr. Monro attributes to Plutarch the same interchange of expressions in the passage (c. 8) relating to the *ρόμος* *τριμερῆς* of Sakadas. Plutarch says: 'there were three *τόνοι* in the time of Sakadas [*circ.* 590 B.C.] Dorian, Phrygian, and Lydian; S. composed a strophe in each, and instructed his chorus to sing, the first *δωριστί*, the second *φρυγιστί*, and the third *λυδιστί*.' It may be that Plutarch here uses *τόνος* in the sense of *ἁρμονία*, but surely some attention is due to the view that mode as well as key was changed in the composition referred to; by this means the rule given by Plutarch in cap. 6 (*ἐν γὰρ τοῖς νόμοις ἐκάστῳ διετήρουν τὴν οἰκείαν τάσιν*) was strictly observed, since in spite of the change of *ἁρμονία* (which Plutarch says was unknown in early *κιθαρωδία* in the words preceding those just quoted) the three strophes were reduced to the same pitch.

Thus we see that the identity of *ἁρμονία* and *τόνος* must not be hastily inferred from the somewhat confused statements of Plutarch, and we may now ask whether it is proved by the use of Plato, Aristotle and Aristoxenus. *ἁρμονία* in the sense of mode is foreign to the terminology of Aristoxenus; *τόνος* in the sense of key does not appear in Plato or Aristotle. This fact in itself, however, proves nothing; and a reason for the disuse of the term *ἁρμονία* is suggested by Mr. Monro himself on p. 56. The word had at least three meanings (1) 'scale' in general, (2) *either* 'mode' or 'key'—whichever meaning we give to the word in Plato—,(3) the enharmonic genus. As Mr. Monro says, 'it is not surprising that a word with so many meanings did not keep

¹ Another instance of Plutarch's usage in this respect is supplied by Dr. Sandys in the last number of this *Review*, p. 397.

its place in technical language but was replaced by unambiguous words.'

The result of our examination of Mr. Monro's argument, then, has been to leave the question an open one. If positive indications on the nature of the *ἁρμονία* can be found, they must guide us in our decision. Such indications are not wanting.

In one instance Mr. Monro departs from his chronological arrangement of passages. On p. 55—much later than the section on Plato (p. 7)—we find a quotation from the *Philebus* 17. Mr. Monro says truly enough that the passage 'has an air of technical accuracy not usual in Plato's references to music.' If this be so, should it not have held the first place in § 5, and should it not have governed the interpretation of the more popular passage in the *Republic*? In the *Philebus*, then, Plato speaks of intervals (*διαστήματα*) and the *συστήματα* produced by their combination *ἀ κατιδόντες οἱ πρόσθεν παρέδωσαν ἡμῖν τοῖς ἐπομένοις ἐκείνοις καλεῖν αὐτὰ ἁρμονίας*. As Mr. Monro remarks, there is a close agreement between this passage and the teaching of Aristoxenus with regard to *συστήματα*. Does not this show that the word which in reality replaced *ἁρμονία* was not *τόνος* but *σύστημα*? In close connection with this should be taken the passage of Aristoxenus (p. 36, 29 Meib.) in which he criticizes his predecessors, who τῶν συστημάτων τὰς διαφορὰς οἱ μὲν ὅλως οὐκ ἐπεχείρουν ἐξαριθμεῖν, ἀλλὰ περὶ αὐτῶν μόνων τῶν ἐπὶ τὰ ὀκτὰ χόρδων (the emendation is a necessary one) *ἀ ἐκάλουν ἁρμονίας τὴν ἐπισκεψιν ἐποιούντο*. These passages show clearly that the term *ἁρμονία* was applied to the species of the octave, and Mr. Monro does not deny this; but he argues that the word *ἁρμονία* 'even in the time of Plato appears as a word of traditional character (*οἱ πρόσθεν παρέδωσαν*), his own word being *σύστημα*,' while its use 'is noticed by Aristoxenus as if it were more or less antiquated.' 'There is no such hesitation, either in Plato or in Aristotle, about the use of *ἁρμονία* for the modes.' Surely the argument is somewhat strained here. Is it not equally open to us to say?—In the time of Plato the popular term, consecrated by tradition (*οἱ πρόσθεν παρέδωσαν*), was *ἁρμονία*; in technical writing *σύστημα* was gradually taking its place, from the cause assigned by Mr. Monro on p. 56 (*v. supr.*); by the time of Aristoxenus the change of usage was complete and he could therefore speak of the use of *ἁρμονία* in this sense as a thing of the past.' Is there any sign of "hesitation" in the passage of Arist. *Probl.* xix. 26 *διὰ τί μέση*

καλεῖται ἐν ταῖς ἁρμονίαις, τῶν δὲ ὀκτὼ οὐκ ἔστι μέσον; where Mr. Monro admits the use of the word *ἁρμονία* in the sense of *σύστημα*?

Our list of indications, however, is not yet complete. On p. 24 Mr. Monro notices the statement (derived by Plutarch from an unknown writer named Lysis) that Lamprokles (*circ.* 475 B.C.) discovered the true place of the disjunctive tone in the Mixolydian *ἁρμονία* at the upper end of the scale (*ἐπὶ τὸ ὀξύ*) and admits that the explanation given by Westphal and Gevaert¹ is correct—that the Mixolydian was an octave of the form

He tries to minimize the importance of this notice—which bears on its face the stamp of genuine antiquity—and concludes, 'in any case the existence of a scale of this particular form does not prove that the octaves of other species were recognized in the same way.' Should we not rather infer that so clear a testimony to the meaning of *ἡ μίξολυδιστὶ ἁρμονία* ought to govern our interpretation of the corresponding terms applied to other modes?

Once again, in the immediate context of the passage just quoted, Plutarch says: *ἀλλὰ μὴν καὶ τὴν ἐπανεμμένην λυδιστί, ἥπερ ἐναντία τῇ μίξολυδιστί... ὑπὸ Δάμωνος εὐρήσθαι φασὶ τοῦ Ἀθηναίου*. On this Mr. Monro says, 'The statement that the "relaxed Lydian" was the opposite of the Mixolydian has given rise to much speculation. In what sense, we naturally ask, can a key or a mode be said to be "opposite" or "similar" to another? I venture to think that it is evidently a mere paraphrase of Plato's language. The relaxed Lydian is opposed to the Mixolydian because it is at the other end of the scale in pitch.' But

(a) the relaxed Lydian—if rightly identified by Mr. Monro with the later Hypolydian key—is not 'at the other end of the scale in pitch' to the Mixolydian key, since the final of the one is A, and of the other Eb. Thus Mr. Monro's explanation is inadequate; while

(b) a simple and convincing explanation is given by Gevaert (*i. p.* 109). The succession of intervals in the Hypolydian mode is *precisely inverted* in the Mixolydian (semitone-tone-tone-semitone-tone-tone). What more suitable meaning can be found for *ἐναντία*?

¹ See the very clear statement of the question in *La Musique de l'Antiquité* i. p. 47 f.

Thus far then we have seen that the facts established by Mr. Monro do not prove the ἀρμονίαι to be keys, while we have certain clear indications that the name was applied to modes.

Space will not permit us to trace the remainder of Mr. Monro's argument in all its details, but some salient points deserve special treatment.

1. In § 24 Mr. Monro develops an argument on which great stress is laid. The names of the keys and the *smae* names as applied to the species of the octave follow each other in precisely reversed order. As he says, this cannot be an accidental coincidence; either the names of the species were derived from those of the keys, or conversely. But we learn from Aristoxenus that in his time the seven species (to which he gives no names) had long been recognized by theorists, while the number of keys and their relative pitch was still unsettled. Therefore, argues Mr. Monro, the names of the keys must be the original ones, and must have been transferred to the species after the determination of their number and relative pitch. On the other theory the scheme of seven keys would have been at once complete.

Stated thus in the abstract, the argument appears a strong one. But Mr. Monro has omitted to explain why the two series of names occupy the reverse order of pitch.¹ The reason is that *the keys were used in order to reduce melodies composed in the various modes to a common standard of pitch* (Gevaert i. p. 218). Let each species be noted in the key of the same name, and all will occupy the same octave—viz. that which extends from F to F in modern notation (see Table I. p. 127 in Mr. Monro's book). That this is the true explanation is amply confirmed by the fact that in the Greek instrumental notation (Monro § 27) the fifteen *original* letters represent two octaves in the Hypo-lydian key (that of F), while all the other keys are noted with a greater

or less proportion of derived signs—i.e. the Hypo-lydian key was the 'open key' of antiquity. This fact is explained by Gevaert by the supposition that the octave originally belonged to the Dorian key, which afterwards became a semitone higher owing to a change in the standard pitch. Mr. Monro suggests that 'the Dorian became split up into two keys by difference of local usage, and that the lower of the two came to be called Hypo-dorian [later Hypo-lydian], but kept the original notation.' Now, whichever be the true explanation, it can scarcely be reconciled with the view that the absolute pitch of the ἀρμονίαι was of such importance that a change of a tone or even a semitone produced a change of ἦθος. The prevailing uncertainty with reference to the pitch of the keys in the time of Aristoxenus—which, when the position of the Mixolydian is rectified by a necessary correction of the text, amounts merely to this, that on the flute the interval of a minor third was equally divided instead of being split up into tone and semitone—seems only to imply that the 'standard pitch' and the system of names dependent on it were not absolutely fixed.

2. The names of the seven species are given for the enharmonic genus by Pseudo-Eucl. *Introduct. Harm.* (a work probably dating from the end of the second century A.D.) and for the diatonic by Gaudentius (? fourth century). By the latter author they are applied to the octaves founded on each degree of the diatonic scale, by the former to those founded on the various degrees of the enharmonic scale. Hence the diatonic Phrygian octave is *defgabcd*, while the enharmonic Phrygian is *cee*fabb*c*—not, as we should expect to be the case if the species were of practical rather than theoretical importance, *dee*fabb*c d*. The objection is a very pertinent one, and it must be conceded to Mr. Monro that to the author of the *Introductio Harmonica* theory was more important than practice. But he is a writer of unknown and probably late date, when the enharmonic genus had fallen into disuse; and we are fortunately in possession of a piece of direct evidence that the ancient form of the Phrygian enharmonic was precisely that which we should expect to find. This is the famous commentary of Aristides Quintilianus on the ἀρμονίαι of Plato's *Republic*, discussed by Mr. Monro in §§ 33, 34. Mr. Monro tries to minimize the importance of this direct testimony to the identity of Plato's ἀρμονίαι with the species of the

¹ It is strange that Mr. Monro should not mention this explanation, and still more strange that on p. 77 he should write with reference to the notation as follows: 'The octaves which are defined by the successive pairs of letters, δ-γ, δ-ε, and the rest, are octaves of definite notes. If they were framed with a view to the ancient modes, as Westphal thinks, they must be the actual scales employed in these modes. If so, the modes followed each other, in respect of pitch, in an order exactly the reverse of the order observed in the keys. It need hardly be said that this is quite impossible.' The modes regarded as sections of the Perfect System—not necessarily 'the actual scales employed.'—did succeed each other in an order the reverse of that observed in the keys.

octave in the enharmonic genus, but not, as it seems to us, with success. The very imperfection of the scales, to which Mr. Monro (p. 97) can find no parallel, furnishes one of the clearest indications of their antiquity, since, as will be seen from Gevaert's transcriptions (vol. i. p. 286 f.), it is caused by the absence of the *προσλαμβανομένη* from the system which they presuppose. There is no reason whatever to trace Aristides' information to the same source as '*ἡ παρὰ τοῖς ἀρχαίοις κατὰ διέσεις ἀρμονία*,' as Mr. Monro does on p. 98 f. They are correctly noted in the usual manner, whereas the latter diagram is, as Mr. Monro has no difficulty in showing, 'a species of forgery,' not employing the ordinary notation. The witness of the ancient document embedded in the text of Aristides remains therefore unshaken.

3. In §§ 29—31 Mr. Monro discusses the musical theory of Claudius Ptolemy, and particularly his double system of *ὀνομασία κατὰ θέσιν* and *κατὰ δύναμιν*. It is to be noted that in the discussion he appears to follow Westphal's later doctrine, according to which *ὀνομασία κατὰ δύναμιν* was the old system, applying to the *ᾠσίστημα ἀμετάβολον*, while *ὁ κατὰ θέσιν* was that which varied with the scale. But, as he himself states, 'the *θέσις* of Ptolemy's nomenclature is the absolute pitch (*Harm.* ii. 5 *ποτὲ μὲν παρ' αὐτὴν τὴν θέσιν, τὸ ὀξύτερον ἀπλῶς ἢ βαρύτερον, ὀνομάζομεν*);' and von Jan has clearly shown (*Berliner Philologische Wochenschrift* 1886, Sp. 1285 ff.) that the contrary view (adopted in Westphal's earlier works) is the correct one. Mr. Monro insists strongly that Aristoxenus and his followers recognize only the perfect system and the keys, while Ptolemy's nomenclature (*κατὰ δύναμιν*)—which should have been all-important, had the species of the octave been the scales of practical importance—seems to be his own invention, or at least of recent invention in his time. It is true that he has no difficulty in disposing of the passages adduced by Westphal from earlier writers to prove the existence of *ὀνομασία κατὰ θέσιν*. As we have shown, it is rather *ὀνομασία κατὰ δύναμιν* that we should seek; and Arist. *Probl.* xix. 20 is rightly interpreted of the *μέση κατὰ θέσιν* (i.e. of the perfect system) by Gevaert (i. p. 260). But it must be remembered that the musical theory of Aristoxenus and his school is that naturally developed with reference to *wind* instruments (i.e. the flute), for which the perfect system and its keys are admirably adapted; while Ptolemy's system, on the other hand, is that

applicable to *stringed* instruments, such as the cithara and lyre¹—and, whatever may have been the date at which *ὀνομασία κατὰ δύναμιν* was first invented, there is no question that the *κιθαριστής* must in practice have adopted the method of tuning his instrument which Ptolemy presupposes and the modern harpist practises long before the theory was expounded in the '*Harmonics*.'

4. A word remains to be said on the extant remains of Greek music. Mr. Monro prints the three most recent additions to our stock: (1) the Seikelós inscription, after Crusius; (2) the fragment of Euripides' *Orestes*, after the same scholar; (3) the Delphic paeon and fragments, after M. Théodore Reinach. He notices with regard to the last-named composition the fact (which had escaped MM. Weil and Reinach²) that, as in the case of the Seikelos inscription, there is a remarkable correspondence of melody with accentuation; in all but three cases an acute accent is followed by a note of lower pitch: while in every case there is a fall of pitch in the two notes of a circumflexed syllable. When Mr. Monro wrote, the opposite case seemed to occur once, in the word *θανοῖς*, but this exception has since been removed by von Jan's reading (⋈ for Λ).³ We are now able to add the

name of the composer—Kleochares, the son of Bion, of Athens (*Bull. Corr. Hell.* 1894, p. 71).

Of these three compositions, the first⁴ and third appear to be written in the 'Dorian' mode, and Mr. Monro finds in this fact a signal confirmation of his theory. But the Dorian mode would certainly be that most appropriate to a choral lyric addressed to the Pythian Apollo, so that its use in the Delphic paeon might have been expected. As to the *Orestes* fragment the case is not so clear. MM. Wessely and Ruelle regard the mode as Hypo-phrygian, noted in *τόνος Λύδιος*. Mr. Monro prefers to regard it as 'Dorian' with the addition of *ὑπερνάρη* at the lower end of the scale—i.e. the Dorian *ἀρμονία* as given in the table of Aristides Quintilianus. This seems to be right; but

¹ See Gevaert i. p. 253, with note 2.

² It is noticed by Crusius, *Philologus* liii. 504.

³ The same scholar suggests Θ for Ο in bar 19, i.e.

⁴ On the Seikelos inscription see T. Reinach, *Revue des Études Grecques* 1894, p. 263.

is it quite fair to Aristides to say that 'as the Dorian least needs defence, the fact that it is verified by an actual piece of music does not go far in support of the other scales in the same list'?

There remain (1) the scales in practical use on the *κῠάρα* given by Ptolemy (§ 31); of these one seems to be Phrygian, another Hypo-phrygian in species, while the rest are Dorian or Hypo-dorian; (2) the hymns of Mesomedes (Mr. Monro clings to the name Dionysius, which has been shown not to belong to the composer of the hymns by von Jan, *Jahrbücher für classische Philologie* 1890, p. 679 f.); of these two are Dorian in mode, one Hypo-phrygian; (3) the exercises given by Bellermann's *Anonymus* (on which little stress should be laid); of these three are Hypo-dorian and a fourth perhaps Hypo-lydian, if their tonality be pressed.

Lastly, MM. Havet and Théodore Reinach have lately published (*Revue des Études*

Grecques 1894, p. 196 ff.) a musical phrase from the accompaniment of Terence *Hecyra* 861 (found in the Codex Victorianus)—but little can be said of its tonality; M. Reinach believes it to be Hypo-phrygian both in tone and key. It will be seen that the extant specimens of Greek music do not enable us to solve the problem before us. That the Dorian *ἀρμονία* would be the most popular might have been predicted, yet beside it there appear indications of the use of other modes, though of late date.

Here we must conclude our examination of Mr. Monro's argument. Much has perforce been passed over in silence; yet it may be hoped that no substantial injustice has been done to the case which he has put forward with so much vigour and ingenuity. If it does not seem fatal to the current theory, it certainly requires to be seriously reckoned with by its upholders.

H. STUART JONES.

SCHWAB'S SYNTAX OF THE GREEK COMPARATIVE.

Historische Syntax der Griechische Comparison in der klassischen Litteratur, von OTTO SCHWAB. Pp. viii. 127. Mk. 4.

THIS treatise forms Heft 11 of Schanz's *Beiträge*. It is to be followed by two other parts by the same author. The part before us contains (A) Allgemeiner Teil which we may phrase by 'Of Comparison in General'; and (B) Besonderer Teil I. Syntax der gegensätzlichen Comparison = 'Of Comparison in Particular, Syntax of Adversative Comparison.' The author undertakes in his preface to bring the description of comparison in Greek up to date with the advances in general linguistics and thus 'den anerkannten Gewinn feststehender That-sachen sich anzueignen.' He sets himself to follow Brugmann's limitation of the scope of Syntax: *wie hat die Sprache ihre Formen syntaktisch verwendet, und wie ist man zu dieser Verwendung gekommen?*—and takes strong ground on the harmony of logic and syntax.

The primary tenet of the volume¹ is stated on p. 2: 'Comparison is adversation and the fundamental meaning of the compar-

ative suffix is adversative'; p. 3: 'The underlying original notion of the comparative endings was solely the notion of contrast.'

We are further told that *-ων, -ωτος, -επος* are Aryan endings and older than the notion of comparison which arose after the separation of the individual languages, and so the original signification cannot have been the comparative.

These contentions are reinforced by the psychological one that we can only conceive 'good' as the opposite of 'bad'² and so in pairs: 'big' ('little', 'strong') ('weak'). The only exceptions allowed to these contrasting pairs are designations of material and colour.

The line of facts on which this general proposition is based is that in the various literatures words like Eng. 'upper' comparative in form and contrasting or solely adversative in meaning occur: thus in 'upper' ('lower' the termination is contrasting and not comparative. From this point of view the form 'great' is later than the form 'greater.'

Is adversation of opposites a more primitive operation than comparison of

¹ The author follows closely Ziemer (*Vergl. Synt. d. indoger. Comp.*) here as in almost every other place.

² Of course in any inquiry into linguistic origins we must deal with concrete terms like 'great' ('small', and not with moral abstractions like 'good') ('bad.'