

Iamblichus, *De communi mathematica scientia xxiii*

commentary by DSH & MRJ 2013 September 1

<chapter heading: commentary>

6.21-24: The title announces that the chapter will be about the instrumental benefits of mathematics, but many of its arguments are actually concerned to show that mathematics is intrinsically and not only instrumentally valuable. This suggests either that the title is meant to pertain to the whole group of arguments stretching from DCM xxiii-xxvii (the later chapters of which include argument about the utility of mathematics), or that Iamblichus has in the present chapter borrowed put the ideas of his source to a different use than they seem to be originally intended.

Large parts of the chapter were first attributed to Aristotle's *Protrepticus* by Merlan in a set of articles that he revised and augmented several times, 'Unearthing Aristotle', 5-8 and 'A new fragment of Aristotle' (second revised edition, 1960), 141-145, 148-152, 154f. His attribution was supported, first, by the lengthy study of Festugière, 'Un fragment nouveau du "Protreptique" d'Aristote', 119-127; and also by Allan, in his review of Ross's *Select Fragments* (1953). Richter presupposes that their authenticity has been established in his 'Musik im aristotelischen Protreptikos', 180 and later his *Wissenschaftslehre von der Musik*, 103.

Düring accepts that a small part of the chapter contains "reminiscences from Aristotelian writings" (72.2-6 = C42:4, p. 123; also 72.22). Yet he rejects the attribution of more of DCM XXIII on the basis of two kinds of arguments. First, because a strong argument mentioned by Merlan in favor of attribution is the chapter's connection with DCM XXVI, but Düring (Attempt, 18, 158, 209) rejects the attribution of DCM XXVI to Aristotle's *Protrepticus*, failing to grasp its complex and indivisible interlacement with *Protrepticus* VI. We will deal with the relationship to chapter XXVI in the commentary on that chapter. Second, Düring found the language of DCM XXIII on the whole to be "un-Aristotelian", and he mentioned specifically words not found in Bonitz (παράμιλλα, φιλοστοργία, φυσιολογία, προγνωστική) and what he described as phrases "foreign to Aristotle's usage" (σπέρμα καὶ ἀρχὴ γνώσεως, τὸ τῆς ἐπιστήμης γένος ὀνομαστὶ παρελιηφότες, ἐπηνώρθωκεν ἢ σύνεσις, θεὰ ἐλευθέριος, πρὸς αὐτὸν τὴν ἀναφορὰν ἔχει). But neither individually nor collectively does the mentioning of these words amount to an argument against attribution to Aristotle generally and more specifically to a speaker in the dialogue. Düring was hamstrung by the assumption that the *Protrepticus* had to be a continuous monological letter, thus allowing for much less variation in style than one would expect in a dialogue with different speakers. Düring made no attempt to refute the arguments of Merlan and Festugière. In the commentary on XXIII we will examine each of the cases mentioned by Düring, and also provide and expand upon the positive attribution arguments already extensively developed in Merlan and Festugière.

<xxiii 70.1-7: commentary>

70.1-7 attribution: The first sentence of the chapter shares part of the terminology and concept of the title, but also announces the more general content of the chapter: a defense of the non-instrumental value of mathematics. The stilted style and overlap with the title indicate Iamblichus as the author, though he probably recycled some words and ideas from the source text.

Burkert observes that the words παιδείας ἐλευθερίου refer to the discussion of chapter xxiii, but that προῆγεν and ἀκριβεία refer to an earlier discussion at DCM xxii 67.3ff (*Lore and Science*, 410n58). Thus he thinks argues that the transitional sentence cannot be due to the source (which he takes to be Eudemus). While not disagreeing with his attribution of the sentence to Iamblichus, we observe that it is not necessary to take the sentence as referring to the previous discussion of ἀκριβεία, but that concept is very much at issue in the present chapter.

Further discussion of 70.1-7 in: Sachs 1917, 30ff.; Merlan, ‘new fragment’, 149; de Vogel, *Philosophia* 1 (1970), 88ff.

70.1-3 Πυθαγόρας τὴν περὶ τὰ μαθήματα φιλοσοφίαν εἰς σχῆμα παιδείας ἐλευθερίου μετέστησε: Burkert (following Vogt, *Bibl. Math.* 1908-1909, 31f and Sachs 1917, 30ff) has, on the basis of this passage, successfully called into question the attribution to Eudemus of a comment about Pythagoras found in Proclus, *in Euc.* 65.16++ = Eudemus fr. 133 (= DK 14.6a): “Pythagoras turned its (geometry’s) philosophy into a form of liberal education, seeking its first principles from a higher source and hunting out its laws by a nonmaterialistic and intellectual procedure” (tr. Burkert, *Lore and Science*, 409). Burkert wonders whether the phrase ἀύλως καὶ νοερῶς is an early Peripatetic or later Neoplatonic way of putting things. We agree that Proclus’ source here is not likely to be Eudemus, and that it is possibly this very passage of the *DCM*. But another possibility is actually more natural, that both Iamblichus and Proclus have a common source text, i.e. Aristotle’s *Protrepticus*. Burkert (410) also points out that in the *Corpus Aristotle* speaks of “the Pythagoreans” and not Pythagoras himself, which gives further reason to doubt the attribution to Eudemus. But this cannot be taken to exclude the possibility of Aristotle or another speaker in the dialogue of the *Protrepticus* from speaking directly of Pythagoras. On this ensemble of texts see also Hadot, *Arts Libéraux et Philosophie dans la Pensée Antique* (Paris, 1984), 11ff.

For the idea of a science suitable for “free” people, one need look no further than Plato *Soph.* 253c4-e5 and *Theaet.* 175d8-e1 and 175e7.

70.5 τῆς τε ἀναγκαίας χρήσεως πρὸς τὸν βίον: Cf. in the title (DCM 6.22-23) and below: τῶν πρὸς τὸν βίον ἀναγκαίων (71.16).

<xxiii 70.7-12: commentary>

70.7-12 attribution:

70.7 σπέρμα καὶ ἀρχὴν: Düring cites this as a suspect “non-Aristotelian” phrase (*Attempt*, p.?).

70.10-11 ἀπὸ τούτων: “from them” – but the reference is not immediately clear. The point could be that in the pure mathematical sciences (unlike certain other sciences) the development of understanding from beginner to expert is autonomous, not needing any information assets from any science outside itself; this is consistent with what follows at 16-26. Or else τούτων in 10 might have the same reference as ταῦτα in 12: ‘the proper arguments in the demonstrations about them <viz. certain theorems> establishes further the solidity of the <mathematical> science.’ On this construal of 70.7-11, it is the theorems themselves, nothing else, that supply the bridging process from beginner to expert.

<xxiii 70.13-71.4: commentary>

70.13-71.4 attribution: After a new start is announced, we still seem to be reading Iamblichus describing arguments in his own, not very clear, words. But rather abruptly we notice a change of diction and a forceful philosophical point, apparently borrowed from the source text. But Iamblichus has not succeeded in a clean excerption, because some reasoning is missing between lines n and m (unless this is due to an error of scribal transmission). Thus the following material is called into question. It seems likely that the thought of the argument in the source is being preserved, but not the words originally used to express it.

70.17-18 μεταλαμβάνομεν: Note person of subject.

70.18-21 οἰκείον γάρ ἐστιν ἐκάστω τὸ τῆν φύσιν ὁμοιον, τοῦ δὲ ἐλευθέρου τὸ κύριον τέλος τῆς κατὰ τὸν οἰκείον βίον ἐνεργείας πρὸς αὐτὸν τῆν ἀναφορὰν ἔχει καὶ πρὸς οὐδὲν ἕτερον τῶν ἐκτός: Cf. the strong parallel at Plato, *Rep.* II, 357b4-6.

70.25-26 ἐπαγωγῆς, ἣ διὰ συνηθείας ἐκ τῶν καθ' ἕκαστα γίνεσθαι πέφυκεν: Aristotle defines induction at *Top.* I 12 as follows: ἐπαγωγή δὲ ἡ ἀπὸ τῶν καθ' ἕκαστα ἐπὶ τὸ καθόλου ἔφοδος· οἷον εἰ ἔστι κυβερνήτης ὁ ἐπιστάμενος κράτιστος, καὶ ἡνίοχος, καὶ ὅλως ἐστὶν ὁ ἐπιστάμενος περὶ ἕκαστον ἄριστος (105a13-16). He connects induction and “habituation” at I 14: τῆ δὲ διὰ τῆς ἐπαγωγῆς συνηθεία πειρατέον γνωρίζειν ἐκάστην αὐτῶν, κατὰ τὰ προειρημένα παραδείγματα ἐπισκοποῦντα (105b27-29). On καθ' ἕκαστα meaning “particulars” see also: *Cat.* 2a36, *NE* 1143b4.

70.27 φιλοσοργία: Cf. *HA* 611a12, 621a30; *Physiog.* 809b36.

71.2 οἰκείως ἀπὸ τοῦ πάθους: Romano (comm. ad loc.) points out that Aristotle is referring to the “affection” proper to a philosopher, that is love (of wisdom). As opposed to below at 72.15, where the term is used in the technical philosophical sense of “attribute” or “quality”.

<xxiii 71.4-15: commentary>

71.4-15 attribution: We detect no Iamblichean diction or grammar. The argumentation is forceful and steady. The topic links up perfectly with the controversy of DCM xxvi and Protrepticus VI.

71.8 γυμνασίαν πρὸς ἑτέρας θεωρίας: Cf. Isoc. *Antid.* 180, etc., esp. 266.

71.9-12 τἀληθοῦς ... ἀκρίβειαν: Compare the direct material parallel at *NE* 1098a32.

71.11 παράμιλλα: Cf. *Rhet.* 1371a6. Astydamus (*Trag.*), *Eleg.* 3; Pausanius, *Attic.* Sigma, 6.7. <Expand on LSJ entry, as this would undermine the hapax legomenon?>

<xxiii 71.16-24: commentary>

71.16-24 attribution: Perhaps something has gone missing because wouldn't there have been a longer discussion of the “industrial arts” (unless this refers back to the discussion at DCM xxii circa 69.16-17, or is this proleptic for the discussion found in DCM xxiv-xxvii)?

71.20-22: Cf. *Metaph.* VI: “if there were no immovable objects, then natural philosophy would be first philosophy” (1026a16-22??).

71.23 λεχθέντων: Cf. 70.21: λεχθείσας.

<xxiii 71.24-72.6: commentary>

71.24-72.6 attribution: 71.24-26 is navigational, metatextual (with its explicit reference to a protreptic argument), and makes a point not fitting the point being made about mathematical philosophy in the source text. 71.26-72.6, on the other hand appears more a paraphrase, but is not sufficiently progressive to be counted among the surrounding texts, which show a steady apodictic advance.

72.4-6: Discussion in Theiler, *Mus. Helv.* 15 (1958), 91n24.

<xxiii 72.6-16: commentary>

72.6-16 attribution:

Discussion in: Merlan, 143; Festugiere, 118f, 121f; Theiler, *Aristoteles. Über die Seele*, 87; Kullman, *Wissenschaft und Methode*, 1974, 125.

72.2-6 = During C42:4 (p. 48)

72.9-10 ἢ διὰ τὴν αὐτῆς ἀκρίβειαν ἢ διὰ τὸ βελτιόνων καὶ τιμιωτέρων εἶναι θεωρητικῆν: Cf. de An. I 1.402a1. Merlan's central argument, rejected by Kerferd, and rebutted by Merlan in the appendix 2 to 'new fragment'.

72.11 ἡμῖν: note pronoun usage. Who is meant? Pythagoreans?

72.15 πάθεσιν: see above note on 71.2.

72.16 διὰ τὴν ἀπλότητα τῆς οὐσίας: Phil Horky thinks that this refers to Xenocrates.

72.16: the principle has a simple nature; so does the point and the line; and in this respect they share a common nature.

<xxiii 72.16-73.3: commentary>

72.16-73.3 attribution:

72.18-19 τῆς ἀστρολογικῆς ἐπιστήμης: See note on *DCM* XXVI 80.24. Romano (comm. ad loc.) suggests that Iamblichus himself was drawing a contrast in the present context between astronomy as a mathematical science and its "scientific applications", but there is no consideration of practical applications of astronomy in the present passages, nor is such a distinction relevant in the passages in which Iamblichus uses the more usual (for him) terminology. Therefore we are forced to conclude that Iamblichus is excerpting without even the slightest modification in this zone. Notice that this argument constitutes a lexical argument in favor of attributing the passage to Aristotle, which should be weighed against Düring's lexical considerations for certain other phrases being "un-Aristotelian".

72.18 ἡμῖν: Note pronoun usage.

72.18 αἰσθητῶν: Cf. Pl. *Meno* 76d; *Polit.* 285e; *Tim.* 37b.

72.22-25 = During C42:4 (48).

72.25 φιλοθεάμονα: Cf. *NE* 1099a9-10; *Rep.*

72.27 τῆς φύσεώς εἰσι καὶ τῶν ἡμῖν αἰσθητῶν τὰ θειότατα: This would be a good place for a note on the "knowable by us vs. by nature" distinction. This is an early occurrence of it, if not the first.

72.28 θαυμασιωτάτων θεαμάτων: Cf. *Protr.* XII 60.21-22.

73.1 πλαστὴν: Cf. *Meteor.* 386a27.

<xxiii 73.3-9: commentary>

73.3-9 attribution: Although this section seems not to be progressive enough to have been in the source text, the repetitiveness could be on the part of a speaker or an interlocutor summarizing someone else's views recently stated.

73.9 ὑπολήψεως: EE 1235a20; de An. 427b25.

<xxiii 73.9-17: commentary>

73.9-17 attribution:

73.11-12 ὑπὲρ τούτων συλλογισμούς διὰ τούτων: συλλογισμούς διὰ τούτων is a standard formula in the Corpus; ὑπὲρ τούτων συλλογισμούς is unparalleled.

73.16 τὴν δὲ περὶ τὰ μαθήματα: Vitelli's conjecture is useless and to be rejected on the basis of the strong parallels at 71.8 and just below at 73.18.

<xxiii 73.17-74.1: commentary>

73.17-74.1 attribution:

Discussion in: Merlan, 144.

73.18-19 οἱ Πυθαγόρειοι: This is Aristotle's normal way of expressing himself. The kind of considerations that led Burkert to reject attributing the comments about the individual Pythagoras in the opening of this chapter speak here in favor of attribution to Aristotle (or an early peripatetic like Eudemus, as Burkert considers).

73.22 περιλαμβάνοντες: Vitelli's conjecture of παραλαμβάνοντες ("assume" instead of "include") is unnecessary and gives a worse sense.

73.24-26: Harder, Ocellus Lucanus. Text und Kommentar. Berlin 1926, 58.

<xxiii 74.1-6: commentary>

74.1-6 attribution:

74.4 θεολογικῶς ἀστρονομοῦσι: Noted by Merlan.