

NOTES ON THE TEXT OF JOHN OF ALEXANDRIA¹

John of Alexandria is an obscure figure. Little is known of his life: his *floruit* is placed in the first half of the seventh century A.D.² He was a practising doctor;³ the exact significance of the epithet 'sophista' which is found on the superscription to his commentary on the sixth book of Hippocrates' *Epidemics*⁴ is uncertain: but it *may* indicate an interest beyond the purely medical. Apart from the commentaries on the *Epidemics* and *De Sectis*, the only other work ascribed to him with any certainty is a commentary on the Hippocratic text *On the Nature of the Child*,⁵ although four other works traditionally attributed to Philoponus and of a purely medical nature have been ascribed to him.⁶

The text I am concerned with, his commentary on Galen's *On Sects for Beginners*⁷ (*De Sectis*) recently edited by C. D. Pritchett,⁸ survives only in two medieval Latin translations,⁹ of which Pritchett edits the later and better-attested version done by Burgundio of Pisa, the first Latin translator of the Greek Galen. Pritchett collates the relatively extensive tradition of manuscripts and early editions;¹⁰ and supplies a detailed critical apparatus.¹¹

The purpose of these notes is to draw attention to two passages in John's text, both of which relate to causal concepts, and which both benefit from the light shed on them by a consideration of some of the relevant philosophical material.

¹ The texts of Galen are cited in general by way of C. G. Kühn's monumental, if inadequate, Leipzig edition of 1821–33 (20 vols. in 22); where later and better editions exist, either in the Teubner or the *Corpus Medicorum Graecorum* (CMG) I have sometimes (though not invariably) added those references as well. This is unwieldy, and unsatisfactory in many ways, but until a proper edition of the Galenic *œuvre* becomes available (if it ever does), there is no better method. 'CIAG' refers to the *Commentaria in Aristotelem Graeca*; the other references are self-explanatory.

² See C. D. Pritchett (ed.), *Johannis Alexandrini Commentaria in Librum de Sectis Galeni* (Leiden, 1982), *Praefatio*, p. vii.

³ *ib.*, p. vii.

⁴ Also edited by Pritchett: *Commentaria Iohannis Alexandrini in sextum librum Hippocratis Epidemiarum* (Leiden, 1975).

⁵ See Pritchett, *op. cit.* n. 2, *Praef.* p. vii.

⁶ By Braeutigam in his *De Hippocratis Epidemiarum libri sexti Commentatoribus* (Diss., Königsberg, 1908), p. 46.

⁷ *De Sectis Ingredientibus*: 1 64–105 Kühn = *Scripta Minora* (Scr. Min.) 3 1–32 (Leipzig, 1893), edited by Helmreich.

⁸ Pritchett, *op. cit.* (n. 2).

⁹ See Pritchett, *op. cit.* (n. 2), p. vii.

¹⁰ Extensive at least by comparison with some comparable texts that survive only in medieval Latin versions.

¹¹ The work contains some scholarly irritations however: in particular, Pritchett's references to the rest of the Galenic corpus are unsatisfactory, in two distinct ways. (a) The references are sometimes confusing: he refers to Galen's short treatise *Ad Glauconem de Medendi Methodo* (x1 1–146 Kühn) as '*De medendi methodo*' (e.g. at Pritchett, 1982, pp. 24, 33); but he also uses the same designation (at p. 37) to refer to Galen's masterpiece of therapeutics *De Methodo Medendi* (*Meth. Med.*), x 1–1021 Kühn. (b) More importantly, he does not distinguish between the authentic texts of Galen and those that are either (i) clearly spurious, or (ii) of doubtful provenance. As examples of (i), he refers throughout to *Introductio, sive Medicus* (Int.) xiv 674–797 Kühn, and the *Definitiones Medicae* (*Def. Med.*) xix 346–462 Kühn as if they were genuine, when they are universally acknowledged not to be. In class (ii) fall *De Optima Secta* (1 106–223 Kühn, which is almost certainly at least in part a forgery) and *De Theriaca ad Pisonem* (xiv 210–310 Kühn, which is doubtful). All these texts are included, apparently as genuine, in the list of citations appended to the work (pp. 98–9), and in the preface Pritchett refers to the *Introductio* as if it contained Galen's *ipsissima verba* (*Praef.* pp. viii–ix).

I

The first passage occurs in John's prologue to the Commentary on *De Sectis*, in which he gives a general run-down of the conceptual divisions that matter in medicine.¹² At 1 vb 13–30 (pp. 11–12, Pritchett),¹³ he discusses the theoretical ('speculativum', 1 vb 13) part of medicine (as opposed to the practical ('activum', 1 vb 13) part, which is itself divided into three parts, physiology, aetiology, and semiotics (1 vb 13–17).¹⁴ It is with the second of that triad of species that I am concerned.

Aetiology, the study of the causes of things, is on John's account also sub-divided into a further three parts, which he labels 'procatarticon proegumenon proepticon' (1 vb 20); Pritchett gives as the Greek originals for these *προκαταρκτικόν*, *προηγούμενον* and *προεκτικόν* (op. cit., p. 11). The first two members of that triad are clearly correct; both *αἰτία προκαταρκτικά* (antecedent causes) and *αἰτία προηγούμενα* (preceding causes) are regularly referred to in later Greek medical writing as being two of the three basic categories of causes (the third being that of *αἰτία συνεκτικά* containing or sustaining causes).¹⁵ In the medical literature, antecedent causes differ from preceding causes in that the former are external to the thing affected, whereas the latter are internal to it; both are temporally prior to the effect.¹⁶ These relationships between the two categories are exemplified, although clumsily and inaccurately, by John in the section immediately following (1 vb 20–3).

¹² Pritchett refers these divisions principally to [Gal.] *Int.* xiv 689–90 Kühn, although pseudo-Galen's division there is substantially different from that to be found in John (even allowing for the obscurities generated by textual difficulty). The most important divergence is that pseudo-Galen does not distinguish between theoretical and practical, although that distinction is to be found in the genuinely Galenic *On the Constitution of the Art of Medicine* (*Const. Art. Med.*) i 227–33 Kühn; the division of *τέχνη* into theoretical and practical, with the latter divided further into the acquisitive and the conservative which we find both there and in John, 1 va 27–39 (see n. 13 for the system of references to John), albeit rather badly handled by the latter, goes back to Plato: *Soph.* 219a–d. See further Galen's *De Partibus Artis Medicativae*, translated from the Arabic by M. Lyons (*CMG Supp. Or. II*, 1969); and cf. Galen's *Subfiguratio Empirica* (*Subf. Emp.*), ch. 5, for the account of the Empiricist doctors; the proper division of the art of medicine was a matter of deep and abiding importance to the Greek doctors. *Subf. Emp.* is printed as fragment 10b of K. Deichgräber's *Die Griechische Empirikerschule* (Berlin, 1930), and translated by Michael Frede, in *Galen: Three Treatises on the Nature of Science* (Indiana, 1985). Note also Aristotle's division of *τέχνη* into theoretical, practical, and productive: *Met.* 6 I, 1025b25.

¹³ Pritchett keys his text to some earlier version (either a manuscript of a very early printed edition: thus '1 va 12' would refer to line twelve of column 'a' of the verso of the first folio), hence the somewhat peculiar references in this article; but he nowhere seems to say which earlier version it is. Accordingly, I follow his system, but cite page numbers of his edition as well.

¹⁴ As Pritchett prints it, John's text is unnecessarily clumsy: 'habet igitur medicina speculativum (*θεωρητικόν*) et activum (*πρακτικόν*), sed speculativum dividitur in physiologion (*φυσιολογικόν*) et ethiologion (*αἰτιολογικόν*)... tertium sumoticon (*σημειωτικόν*) quidem est significativum,' etc. (1 vb 13–16, p. 11 Pritchett). It would be much clearer if 'et sumoticon' were read after 'ethiologion' in 1 vb 14 (this would further involve excision of the 'et' before 'ethiologion'); these words might very easily have fallen out of the text. Even easier palaeographically would be the insertion of 'sumoticon' between 'physiologion' and 'et'; but the order of treatment in the succeeding lines makes this unlikely.

¹⁵ For references to the canonical triad, see [Gal.] *Def. Med.* xix 392 Kühn; *Caus. Puls.* ix 1–2 Kühn; *De Causis Contentivis* (*Caus. Cont.*) 2, = *CMG Supp. Or. II*, p. 134.8–13; and see further my article 'Evidence, externality, and antecedence: inquiries into later Greek causal concepts', *Phronesis* 32 (1987), 80–100.

¹⁶ For a full discussion of these issues, see my art. cit. (n. 15); and my *Galen on Antecedent Causes* (Cambridge, forthcoming). Further texts relating to the distinction include *San. Tu.* 236 Kühn = *CMG v 4* 2, 104.9–16; *Meth. Med.* x 65–6, 242–4 Kühn; *Praes. Puls.* ix 269, 349–51, 386

The problem is with the third item on the list, *προεκτικόν*. This word is never found in Galen; and the standard third item of the triad is, as I noted above, the *αἰτιον συνεκτικόν*, a cause that is strongly functionally correlated, and temporally concurrent with, its effect.¹⁷ In Galen, the term is invariably used to cover causes of alterations in things, or the preservation of conditions which would otherwise fail to obtain.¹⁸ Pritchett notes that ‘*προ προεκτικόν Galenus habet συνεκτικόν*’: it appears from the context of his note that Pritchett is actually referring here to a passage of pseudo-Galen (*Int.* xiv 691–2: see n. 12 above), rather than the genuine article; but even so, his contention is, as we have seen, correct for the genuine Galen as well.

None the less, Pritchett prints the text as it stands: and it is conceivable that it is what John wrote. *προεκτικός* is attested in Patristic Greek in Gregory of Nyssa: in his Great Catechism, he writes that the Word of God

is, as the power that ?predetermines? (*προεκτικήν*) and creates (*ποιητικήν*) goods, the cause of the goodness of the cosmos. (*Or. Catech.* 5; p. 21.12 Strawley)

However, this is the sole attested use of the word in Lampe’s *Patristic Greek Lexicon*;¹⁹ and even here it is controversial (there is a variant reading, *ὀρεκτήν* this would translate as ‘the power that desires’, which makes good sense in the context and is preferred by some scholars). Gregory may indeed have written *προεκτικήν*, using it in a genuinely causal sense, as either equivalent to or closely related to *συνεκτικήν* (although this is made more difficult if the prefix *προ-* has anything like its usual temporal force); so it is possible that John himself, aware of a use of *προεκτικός* in causal contexts, simply supplied it here along with the other canonical two. But that would argue either ignorance or carelessness on his part; ignorance of this sort is implausible in a considerable scholar of the medical tradition.

It seems more likely, then, that the error crept in during the process of transmission. The mistake is eminently explicable on both semantic and morphological grounds: there was (perhaps) a causal sense of *προεκτικός* and after two occurrences of *προ-*, the eye naturally expects another.²⁰

The upshot is that John probably wrote *συνεκτικόν* and not *προεκτικόν*; and that for the reasons canvassed above the original became distorted in transmission. The text should consequently be emended.

II

The second passage I wish to discuss occurs in the body of the Commentary itself, at

Kühn; *Hipp. Epid.* xviii 63 Kühn, = *CMG* v 10 2 2, 157.20–1; *Hipp. Nat. Hom.* xv 111–13 Kühn = *CMG* v 9 1, 58.16–59.12; [Gal.] *Int.* xiv 691–2 Kühn; [Gal.] *Def. Med.* xix 392–3 Kühn; and [Gal.] *Hipp. Alim.* xv 302 Kühn, although the latter is a very late forgery, and follows *Def. Med.* so closely at this point that it does not count as a separate source.

¹⁷ Cf. Sextus Empiricus. *PH* 3 15; [Gal.] *Def. Med.* xix 393 Kühn; Clement, *Stromateis* 8 (9) 25, 33.

¹⁸ *Caus. Symp.* vii 93, 132 Kühn; *Adv. Jul.* xviii 280 Kühn = *CMG* v 10 3, 58.1–4; however, he notes that earlier theorists (the Stoics) used the term *αἰτιον συνεκτικόν* for causes of being, to explain the persistence of material objects, something which he himself generally considers to be superfluous: *Plen.* vii 524–8 Kühn. I discuss these issues in my art. cit. (n. 15), esp. pp. 80–6.

¹⁹ Lampe gives ‘hold out’ and ‘offer’ as possible meanings for the term, although given the paucity of the attestations it is not clear on what basis he does so.

²⁰ Although given the second occurrence of ‘proeption’ at 1 vb 23 in all but one of the MSS. (which omits the crucial part of the sentence altogether), this would involve two stages of textual corruption – first 1 vb 20 is corrupted involuntarily by assimilation of prefixes; then at a later stage 1 vb 23 is ‘corrected’ to coincide with the corrupt reading. I am grateful to the Editors for pointing this out.

2 rb 61–2 va 5 (pp. 20–1, Pritchett). John is discussing the opening sentences of *De Sectis* (I 64–5 Kühn, = *Scr. Min.* 3 1.1–2.11), in which Galen writes that:

The aim (*σκοπός*) of the medical art is health; the goal (*τέλος*) is the acquisition of it.²¹

σκοπός and *τέλος*, are not always rigorously distinguished in Galen;²² but where they are, he adopts something like the standard Stoic distinction, which he hints at here, although not for the Stoics' purposes. Broadly, the Stoics wanted to distinguish (for the purposes of their ethical theory) between directing one's behaviour towards some target (the *σκοπός*), and actually achieving what one was aiming at; and crucially for them the latter might well turn out to be indifferent (that is to say, achieving or failing to achieve would make no difference either way to the good life) without *ipso facto* depriving the former of its positive value;²³ for them, apparently, it was partly constitutive of the good life that we have aims: but whether *those particular* aims came to fruition or not was itself a matter of indifference – achievement of them, then, was *not* the *τέλος*, in the sense of the end of the good life.

John of Alexandria illustrates this distinction with the example of an archer²⁴ at 2 rb 61–4 (pp. 20–1 Pritchett):

sed quia intentionem (i.e. *σκοπός*) memoravit, dicamus quid sit intentio, intentio est consideratio²⁵ finis (i.e. *τέλος*) finis vero secta²⁶ perfecta. sed ista ita sunt quemadmodum sagittator, posito a longe signo, intenderet dirigere sagittam, et, ut direxerit, finit²⁷ intentio.

But since he employs the word 'aim', let us say what an aim is. An aim is an apprehension of

²¹ Similar claims are made at [Gal.] *Int.* xiv 688 Kühn, and [Gal.] *Def. Med.* xix 349 Kühn.

²² Cf. *Caus. Proc.* vi 57 = *CMG Supp.* II 15.3–8: 'unum utique est hoc genus, quod sive id quod propter quod [i.e. οὐ χάριν] fit quod fit volueris nominare, sive utilitatem [i.e. χρεία] generationis eius quod fit, sive finem [i.e. τέλος], sive intentionem [i.e. σκοπός] nichil differt' (see my op. cit. n. 16 above, *ad loc.*) and cf. *Us. Part.* III 464–71 Kühn, where *σκοπός* and *τέλος* are used interchangeably, as they are (apparently) at *Symp. Diff.* vii 47 Kühn (cf. the remarks of Stobaeus, n. 23 below).

²³ For an excellent discussion of this apparently paradoxical belief, and a convincing defence of its coherence, see Gisela Striker's 'Antipater, or the art of living' in G. Striker and M. Schofield (edd.) *The Norms of Nature* (Cambridge, 1986), 185–204. Stobaeus ascribes three definitions of *τέλος* to the Stoics, according to the second of which it is equivalent to *σκοπός* (the third is the definition appropriate to the sort of distinction just mentioned): *Ecl.* 2 76, = *SVF* 3 3; cf. *ib.* 2 77, = *ib.* 3 16). B. Inwood, in *Ethics and Human Action in Early Stoicism* (Oxford, 1985), p. 58, writes of 'the distinction between *σκοπός*, a material object, and *τέλος*, a *λέκτον* closely related to it'; but that characterisation does not seem to do justice to the distinction as we find it in Galen.

²⁴ For earlier versions of this stock Stoic illustration, see *SVF* 3 18 (= Cicero, *Fin.* 3 22), and 3 10 (= Philo, *de Moyse*, 2 3); and cf. Aristotle, *Eth. Nic.* I 2, 1094a23–4.

²⁵ Pritchett prints 'considerato', which makes no sense; I do not know whether this is a misprint, or represents something in the MSS.

²⁶ What can this mean? Does it translate *αἵρεσις* though *not* in its sense of 'medical sect' but rather in its general sense of 'grasping'? This seems unlikely. Michael Frede suggested, in a private letter, that we should read 'intentio' for 'secta', which at least gives a clear sense, and would restore a balance to the sentence – but the emendation is palaeographically unsatisfactory. It may be, as David Sedley suggests, that the text is correct as it stands, and that 'secta' does have its technical sense, the idea being that the overall goal of medicine is the completion of medical science.

²⁷ Michael Frede suggests reading 'perficeretur' for 'finit' (which is certainly harsh), which gives an excellent sense, although such a corruption is difficult to account for. David Sedley suggests 'ut direxerit finis, est intentio', which is easy palaeographically, and gives the sense 'when the goal directs it, it is an aim' (presumably distinguishing genuine aims from mere happenstance successes); it also allows the possibility that John's conception of the relation between *σκοπός* and *τέλος* is broadly speaking that of the Stoics (although it does not entail it: see n. 23 above). None of this is, however, central to our current concerns.

the goal; the goal the completion of the *αἴρεσις*. This is like the case of the archer who intends to direct an arrow towards a target placed at some distance, and, when he has so directed it, the aim ?finishes?

The passage with which I am principally concerned, however, immediately follows this illustration:

et quattuor in unaquaque arte requirenda sunt: factibile materiale organicum perfectibile. factibile ut carpentarius; materiale habet ipsa videlicet ligna, organicum ipsa ferramenta, perfectibile perfectisse scamnum aut mensam. sic et medicus ipse est factibilis; materiale habet ipsa corpora hominum, organicum dietam medicinam et flebotomum, perfectibile perfecta sanitas. [philosophia autem ista quattuor habet: esu. exu. div. dio.; esu. similatur factibili, exu. materiali, div. organico, dio. perfectibili.] (2 rb 65–2 va 5)

Four things are needed in each art: efficient material, instrumental and final causes. For example, the carpenter is an efficient cause, and has as his material cause the woods, as his instrumental cause his tools, and as his final cause the completion of the bench or the table; likewise, the doctor is an efficient cause, he has people's bodies as his material cause, regimen, drugs and venesection as his instrumental cause, and the achievement of health as his final cause.

I print the text exactly as it stands in Pritchett. He brackets, presumably as an interpolation, the last sentence, which I translate and discuss below.

The text discusses a division of causes. The inspiration for such a classification is clearly Aristotelian,²⁸ although the actual divisions made correspond not to Aristotle's scheme, but to that employed by Galen in his more Aristotelian moments: of the canonical Aristotelian tetrad of Efficient, Material, Formal and Final causes, the Formal cause is omitted, and its place taken by a *parvenu*, the Instrumental cause.²⁹ This is the scheme Galen adopts at *Caus. Proc.* vi 57–vii 76 = *CMG Supp.* ii 14.33–19.23, and he claims that it is exhaustive and complete;³⁰ Galen's coolness to the Formal cause is general: he admits it to his causal *schemata* only once, and then in grudging fashion.³¹

Pritchett offers in his notes the following proposed Greek equivalents for Burgundio's Latin translations of the four causal types: 'factibile' = τὸ πρακτικόν; 'materiale' = τὸ ὑλικόν; 'organicum' = τὸ ὀργανικόν; and 'perfectibile' = τὸ ποιητικόν. The second and third are clearly correct;³² but the first and fourth must be wrong. Let us deal with the first case, 'factibile', first. As Jonathan Barnes notes,³³ in

²⁸ *Phys.* 2 3, 194b16–195a21; *Met.* 5 2, 1013a24–1014a25; cf. *Met.* 2 2, 994a1ff.; 3 2, 996a18ff.; 12 4, 1070a31ff; etc.

²⁹ For this later addition to the Peripatetic causal categories, see my op. cit., n. 16 above. The Neoplatonists of the fourth century and later adopt a six-fold taxonomy of Efficient, Material, Formal, Final, Paradigmatic, and Instrumental Causes (see Philoponus, *In Phys.* 1 1, *CIAG* xvi 5.7ff.; Simplicius, *In Phys.* 1 1, *CIAG* ix 10.35–11.4); the first five causes are to be found in Seneca, *Ep.* 65 8. See also M. Frede, 'The Original Notion of Cause', in J. Barnes, M. F. Burnyeat, M. Schofield (edd.), *Doubt and Dogmatism* (Oxford, 1980), 217–49, p. 222. Aristotle himself mentions tools, *ὄργανα*, in his discussion of causes: *Phys.* 2 3, 195a1–3, *Met.* 5 2, 1013b1–4; but they do not figure as a separate causal category either in Aristotle or in later Peripatetics such as Galen's contemporary Alexander of Aphrodisias: see Alexander, *de Fato* 3, vol. 2, p. 116.15–26 Bruns, = R. W. Sharples, *Alexander of Aphrodisias on Fate* (London, 1983), p. 180.

³⁰ *Caus. Proc.* vii 71, = *CMG Supp.* ii, 18.18–22.

³¹ At *De Usu Partium* (*UP*) iii 464–71 Kühn; *UP* is also edited by G. Helmreich in the Teubner series (Leipzig, 1907–9); and it is translated into English with an introduction in M. T. May, *Galen on the Usefulness of the Parts of the Body* (Baltimore, 1967).

³² *UP* iii 465–6, 470–1 Kühn; *Symp. Diff.* vii 47–8 Kühn; *Caus. Proc.* vi 60, 63–7 = *CMG Supp.* ii, pp. 15.31–6, 16.18–17.22. Cf. Seneca, *Ep.* 65 8.

³³ In his 'Ancient Skepticism and Causation', in M. F. Burnyeat (ed.), *The Skeptical Tradition*, (Berkeley and Los Angeles, 1983), 149–203, p. 191 n. 21.

later Antiquity 'the nomenclature for efficient causes and principles is rich'; but the expression *αἴτιον πρακτικόν* nowhere occurs among them. Rather, it seems that *ποιητικόν* (which Pritchett assigns to 'perfectibile') is in fact appropriate as the original for 'factibile', and would be what John actually wrote: it is a perfectly standard later Greek term for causal efficiency.³⁴

On the other hand, as far as the term 'perfectibile' is concerned, however it is to be back-translated into Greek, it must advert to Final and not Efficient aspects of causal explanation. Pritchett was perhaps influenced by the linguistic connection between 'perfectibile' and 'facio' to take it to be another word denoting causal efficiency: but this must, in view of the examples adduced, and the general structure of such causal schemes that we have discerned, be wrong. Furthermore, by supplying here some term that refers to Final causes we can turn John's list into what is, as we have seen, a perfectly standard (indeed Galenic) variant on the Aristotelian scheme: the obvious candidate here is *τελικόν*.³⁵

Finally, I want to consider the sentence square-bracketed by Pritchett (2 va 3–5; see p. 589 above). He gives no reason in the critical apparatus why he brackets the sentence; and I think it should be welcomed back, with one emendation, into the body of the text. The sentence is indeed cryptic as it stands: but once one realises what the four strange apparent abbreviations ('esu. exu. div. dio.' in Pritchett's text) stand for, it becomes quite intelligible, and perhaps expresses a mildly interesting claim. John is simply listing standard later Greek prepositional formulae for the causes, and they are transliterated into Latin by Burgundio. Thus 'exu' represents *τὸ ἐξ οὗ*, that out of which; 'div' *τὸ δι' οὗ*, that with which; and 'dio' *τὸ δι' ὃ*, that for the sake of which. All these formulae are regularly used to characterise Material, Instrumental, and Final causes respectively,³⁶ and the habit of referring to them thus persisted into the Neoplatonic tradition.³⁷ Barnes³⁸ notes that *τὸ δι' ὃ* refers to the concept of causation in general (and by implication not specifically to Final causation), citing Sextus' definition of a cause as 'that because of whose (*δι' ὃ*) acting the effect comes to be',³⁹ but while in some contexts the prepositional phrase no doubt has that general (indeed Efficiently-tinged) force, in the context of the causal lists (references in nn. 36, 37), its scope is restricted to Final causation.

The only problem is 'esu'. This immediately suggests a Greek original of *εἰς οὗ*; but that is quite impossible as there is no equivalent prepositional formulation anywhere that I am aware of in causal contexts involving *εἰς* – and in any case, *εἰς* always takes

³⁴ Galen sometimes contrasts *αἴτια ποιητικά* with *αἴτια φυλακτικά*, or conservative causes, things responsible for things staying the way they are: *Ars Med.* 1 307, 365–6 Kühn; cf. *San. Tu.* vi 437–8 Kühn, = *CMG* v 4 2, p. 192.2–10; *Meth. Med.* x 551–2 Kühn; *Hipp. Aph.* xviii 503–4 Kühn: in medical contexts the distinction is generally between cure and prophylaxis.

³⁵ Which figures in late antiquity as a synonym for the Final cause: see Proclus in *Parm.*, p. 612 S; in *Tim.* 3.126 D; and in particular Alexander of Aphrodisias *Febr.* 23.

³⁶ *UP* iii 465, 471–2 Kühn; cf. *Caus. Proc.* vi 57–67, vii 69–72, = *CMG* Supp. ii pp. 15.3–17.22, 18.6–34, 19.11–17; Seneca, *Ep.* 65 8; cf. Diogenes Laertius 1 21, for the curious variant of the eclectic Potamo (who included *τὸ ἐν ᾧ*, 'that in which', a 'Locational cause'); and cf. Dillon, op. cit., p. 138, on what he calls, somewhat infelicitously, 'the metaphysic of prepositions'.

³⁷ See the references at n. 36 above; and cf. Proclus, *Elem. Theol.* 75, and Sextus Empiricus, *PH* 2 14 (albeit in the different context of the criterion of truth). The use of prepositional phrases to characterise causes goes back to Aristotle, *Phys.* 2 3, 194b24–195a3, but he did not employ the method systematically: cf. n. 40 below.

³⁸ Art. cit. (n. 33), pp. 170–1.

³⁹ *PH* 3 14.

the accusative.⁴⁰ The obvious solution is to emend the text so as to yield $\epsilon\phi$, as $\tau\omicron \epsilon\phi$ $\omicron\phi$, 'that by which', is the regular formula in our lists that refers to the Efficient cause.⁴¹ With that emendation, the sentence makes sense, is perfectly intelligible in the context, and is readily explicable palaeographically as a corruption in the Latin version: the scribe misread 'ifu' as 'isu'.⁴²

I remarked a few paragraphs ago that, properly construed, this sentence might make a mildly interesting claim. Let me first translate the sentence:

But philosophy has these four: that by which, that out of which, that with which, and that on account of which; that by which corresponds to the Efficient cause, that from which to the Material cause, that with which to the Instrumental cause, and that on account of which to the Final cause.

The claim, I suggest, is that the use of prepositional formulae is proprietary to philosophy, and so presumably philosophical in origin; consequently if such formulae are used by the doctors (as they are for instance by Galen: see the texts cited in n. 35 above), they have been borrowed from the philosophical schools. If that is right, then it is of some interest and importance. Medical and philosophical theorising in later Antiquity went hand in hand; and I have argued elsewhere,⁴³ against the view expressed by Michael Frede,⁴⁴ that some at least of the terminology generally ascribed to the philosophers originated in the medical schools. What John's testimony shows is that sometimes the current ran the other way; and that medical writers were themselves aware of and acknowledged the difference between the standard medical and philosophical ways of referring to the same items.⁴⁵

University of Texas at Austin

R. J. HANKINSON

⁴⁰ One might cite *Phys.* 2 1, 193b13ff. as a case in which $\epsilon\varsigma \delta$ occurs in a more or less parallel context: but the similarity is only superficial (Aristotle is not concerned with the rigorous classification of causes, only with the preliminaries of the investigation into the nature of nature); and in any case, $\epsilon\varsigma \delta$ clearly picks out the Final cause (or the fully-actualized form) if it picks out anything.

⁴¹ See n. 35 above: $\acute{\upsilon}\pi\omicron$ is of course ubiquitous as a preposition denoting agency.

⁴² The fact that 'esu.' occurs twice in the same line is to be explained in the same way as the second occurrence of $\pi\rho\omicron\epsilon\kappa\tau\iota\kappa\acute{\omicron}\nu$: see n. 20 above.

⁴³ In my art. cit., n. 15 above.

⁴⁴ Art. cit., n. 29.

⁴⁵ An early version of this note was read by Jonathan Barnes, and by Myles Burnyeat. As always, I profited from their helpful and penetrative comments. The penultimate draft benefited enormously from the detailed and incisive commentary of the Editors.

FREE-BORN AND MANUMITTED BAILIFFS IN THE GRAECO-ROMAN WORLD*

Several times in the past the question has been raised whether in Greece or in Rome there were any free-born citizens who would have been prepared to take over the management of a farm, a business thought to have usually been entrusted to slaves. In this connection the number of sources testifying to the manumission of Roman slave bailiffs has also attracted some attention. It must be said, however, that notwithstanding previous scholarly efforts to assemble the relevant testimonia, important evidence has been disregarded or simply overlooked; in addition, in one instance at any rate, a source was not yet available.

In respect of Greece, the discussion has revolved almost exclusively around some

* My thanks are due to Dr Peter Garnsey (Cambridge) for commenting on an earlier draft of this paper.