

Herophilus and Common Opinions

Andrew C. Mayo

THOUGH THE THIRD-CENTURY BCE Alexandrian physician Herophilus of Chalcedon is a pivotal figure in the history of medicine, what we know of him comes from the scattered testimony of later authors.¹ Of this evidence one piece that has proved to be of great interest is the title of one of Herophilus' lost works, namely Πρὸς τὰς κοινὰς δόξας, which we hear about from the second-century CE author Soranus. The title is usually translated as *Against Common Opinions*. This translation, however, is not required by the Greek. Though there are a number of titles with πρὸς followed by an accusative noun where the sense is clearly 'against', these cases involve individuals or groups of people. With abstract or otherwise impersonal nouns it almost always indicates a more general kind of specification. In this paper, I maintain that the same holds for Herophilus' work and that the title does not mean "against common opinions," but rather "regarding common opinions."²

¹ I cite Herophilus by the number of the fragment or testimonium in H. von Staden, *Herophilus: The Art of Medicine in Early Alexandria* (Cambridge 1989). All translations are my own.

² I acknowledge that the point is not altogether conclusive. The parallels I adduce below are a mixed bag: none is quite equivalent to the title Πρὸς τὰς κοινὰς δόξας and they would seem at first to pull in different directions. The best parallels among other titles—titles for which a polemical context makes much better sense than for the present case—do tend in the direction of a hostile connotation; but the best parallels when our chief consideration is what "common opinions" ought to mean (above all in Aristotle) suggest rather a neutral connotation. A strictly philological analysis can only go so far, and so it is ultimately on the basis of what we know about Herophilus that "regarding common opinions" emerges as the better interpretation.

After I have argued the case, I draw some interesting implications of this revised title for our understanding of the scope and aims of this treatise. For, as I will show, the title “against common opinions” is not in line with what we know of this work and Herophilus’ method in general. The conventional translation “against common opinions” is generally taken to suggest that Herophilus denied the value of established opinion in scientific inquiry;³ however, the place of established opinion (δόξα) in science is a commonplace in Aristotelian scientific method, by which Herophilus seems to have been influenced.⁴ My reading of the title, on the other hand, suggests that Herophilus advocated a provisional acceptance of the claims of established opinion in science.

1. κοινὰ δόξαι and the authenticity of the title

Our primary evidence for the title of Herophilus’ work comes from a passage in Soranus of Ephesus’ *Gynecology* (*Gyn.* 1.27.2, 29.1 = T203–204 von Staden):

Now, as Herophilus too mentioned in his work *Regarding Common Opinions*, of previous physicians some say that menstruation has a beneficial effect for both health and procreation. Themison, however, and most of our school say it is beneficial only for begetting children, while of the more distinguished physicians some say that is beneficial neither for health nor for producing children. But following different approaches, Herophilus and Mnaseas say that for some women menstruation is helpful for health, but for others it is harmful ... But Herophilus says that

³ An anonymous referee points out that Πρὸς τὰς κοινὰς δόξαις with the plural can refer just as well to some specific set of common opinions as to common opinions in general. I will explain later why it seems to me likely that Herophilus’ work addressed the problem of ἔνδοξα in Aristotelian science and dialectic, which has to do with the theoretical standing of common opinions in general. If I am right that “πρὸς X” flags a *zētēma* or *problēma* (see below), then it must have concerned itself with common opinions in general, though in the context of medicine.

⁴ For Aristotelian scholarship on this issue see n.45 below.

menstruation is sometimes harmful for some women, since (he says) some are healthy without impediment when they are not menstruating; and often, on the contrary, they grow paler and weaker when menstruating and undergo the onset of disease; while other times in some cases it is helpful, so that, whereas previously pale and malnourished, later, after menstruation, they have a hearty color and are well-nourished.⁵

From Soranus' testimony we learn that in this work Herophilus discussed prior medical opinions in relation to his own, for example whether menstruation is ever harmful to women.⁶ The fact that he speaks of the medical opinions of his predecessors has led most scholars to translate the work "*Against Common Opinions*."⁷ In so doing, they tacitly assume that titles with 'πρός

⁵ ἔνιοι μὲν οὖν τῶν ἔμπροσθεν, ὡς καὶ Ἡρόφιλος ἐν τῷ Πρὸς τὰς κοινὰς δόξαις ἐμνημόνευσεν, ἐπὶ συμφέροντι λέγουσιν γεγονέναι τὴν κάθαρσιν καὶ πρὸς ὑγίαν καὶ πρὸς παιδοποιίαν, Θεμίσιον δὲ καὶ οἱ πλείστοι τῶν ἡμετέρων πρὸς μόνην παιδογονίαν, τινὲς δὲ τῶν ἐπισημοτέρων οὔτε πρὸς ὑγίαν οὔτε πρὸς παιδοποιίαν. Ἡρόφιλος δὲ καὶ Μνασέας κατὰ διαφόρους ἐπιβολὰς τισὶ μὲν τῶν γυναικῶν πρὸς ὑγίαν ὠφέλιμον λέγουσιν εἶναι τὴν κάθαρσιν, τισὶ δὲ βλαβερὰν ... Ἡρόφιλος δὲ ποτὲ μὲν καὶ τισιν τῶν γυναικῶν βλαβερὰν φησιν εἶναι τὴν κάθαρσιν, καὶ γὰρ ἀνεμποδίστως τινὰς ὑγιαίνειν μὴ καθαιρομένας καὶ πολλάκις τὸναντίον καθαιρομένας ἄχροτέρας γίνεσθαι καὶ ἰσχυρότερας καὶ παθῶν λαμβάνειν ἀφορμάς, ποτὲ δὲ καὶ ἐπὶ τινων ὠφέλιμον, ὥστε πρότερον ἀχρούσας καὶ ἀτροφούσας ὕστερον καὶ μετὰ τὴν κάθαρσιν εὐχροῦσάι τε καὶ εὐτροφῆσαι.

⁶ Cf. H. von Staden, "Rupture and Continuity: Hellenistic Reflections on the History of Medicine," in P. J. van der Eijk (ed.), *Ancient Histories of Medicine: Essays in Medical Doxography and Historiography in Classical Antiquity* (Leiden 1999) 143–187, at 145.

⁷ F. Kudlien, "Herophilus und der Beginn der medizinischen Skepsis," *Gesnerus* 21 (1964) 1–13, at 3; von Staden, *Herophilus* 373; T. Tieleman, "Dialectic and Science: Galen, Herophilus and Aristotle on Phenomena," in P. H. van der Eijk et al. (eds.), *Ancient Medicine in its Socio-Cultural Context II* (Amsterdam 1995) 487–495, at 494. This may also be motivated by the observation at Ps.-Gal. *Opt.sect.* I 109 K. (= T54 von Staden) that Herophilus did not trust foolish opinions (μὴ δόξαις ἠλιθίαις ἀποπιστεῦσαι). Tieleman (494) takes this passage to mean that Herophilus distinguished between "observable phenomena, which he examined, and opinions (*doxai*), in which

+ accusative' tend to be works directed 'against' opponents.⁸ Plutarch's *On Common Conceptions against the Stoics* gives us a very good example of this usage. Here πρὸς clearly has a hostile connotation, and the group towards which Plutarch is hostile, the Stoics, is marked by the accusative. While this sense of πρὸς is common when referring to individuals or groups, it is almost never found when referring to abstract or non-personal nouns. Plutarch himself illustrates this well: at *On Common Conceptions against the Stoics* 1063D10, when discussing Chrysippus, he mentions the idea that "people philosophize with reference to common opinions" (πρὸς τὰς κοινὰς ἐννοίας φιλοσοφοῦσι).⁹ This certainly does not seem to mean "against common conceptions" but "with reference to common conceptions."¹⁰ This seems to hold generally for constructions of this kind.

he did not put his trust." Yet the language here is consistent with a range of interpretations. Doubtless Kudlien's influential paper is partially responsible for the standard translation "against common opinions": the hostile sense of πρὸς best suits his characterization of Herophilus as a skeptic critical of established beliefs (so with Sextus Emp. *Pyr.* 2.48.9, *Math.* 9.44.1).

⁸ An anonymous referee notes that such hostile uses of πρὸς with the accusative are often influenced by the language of the lawcourt (LSJ s.v. C.I.4, with titles of judicial speeches being especially relevant, though the dominant expression takes the form κατὰ τινοῦς). This is part of the reason why πρὸς in a hostile sense naturally takes a personal object, πρὸς τινα or πρὸς τινά (note, however, that even with individuals the sense need not be hostile; cf. LSJ s.v. C.I.5). Titles like Serapion's πρὸς τὰς αἱρέσεις (discussed further below) are best understood this way as well: it is as though Serapion is facing the sects and addressing them. The other chief context in which πρὸς naturally takes on a hostile connotation involves fighting (cf. *Cambridge Greek Lexicon* s.v. B.4). Although in English "to fight against poverty," e.g., is idiomatic, abstract objects are much less natural in Greek (on this point cf. J. D. Denniston, *Greek Prose Style* [Oxford 1952] 23–40) and would probably resort to personification.

⁹ I thank an anonymous referee for this illuminating parallel.

¹⁰ Cherniss translates the phrase as "with a view to the common conceptions": H. Cherniss, *Plutarch's Moralia* XIII.2 (Cambridge [Mass.] 1976) 695; cf. *De Stoic. repug.* 1042D–E.

Herophilus' work therefore is more naturally construed as *Regarding Common Opinions*. What then does it suggest concerning its contents? κοινὰ δόξαι suggests his concern with method, with the things that are presupposed in medical inquiry. Heinrich von Staden¹¹ brings up in this connection the notorious ἔνδοξα of Aristotle's *Topics* (1.1 100b21–23)¹² as well as the fact that Aristotle sometimes uses the same expression we meet with in the title, κοινὰ δόξαι, ostensibly with reference to the same class of ἔνδοξα held to be true by all or most experts in a given domain.

Soranus' testimony, according to which Herophilus evaluates the established views of medical experts, is consistent with Herophilus having had something like Aristotle's κοινὰ δόξαι in mind. Even if the book title may not have been assigned by Herophilus himself, an issue raised by von Staden,¹³ it must at least have been a reasonable description of either a work or part of a work written by Herophilus. I believe, however, that the title probably goes back to Herophilus: it is common

¹¹ In *Ancient Histories of Medicine* 146–147.

¹² On the controversy surrounding Aristotelian ἔνδοξα see D. Frede, "The *Endoxon* Mystique: What *Endoxa* Are and What They Are Not," *OSAPh* 43 (2012) 185–215.

¹³ In *Ancient Histories of Medicine* 162 n.47. In support of the view that the title is not by the author one might draw attention to πρὸς τὰς Κνιδίας γνώμας, which Galen associates most closely with a portion (the proem) of the Hippocratic *On Regimen in Acute Diseases* (*In Hipp. de vict. acut.* XV 452.14 K.). Yet it is clear that πρὸς τὰς Κνιδίας γνώμας was used of the work as a whole (a point discussed below). Since the most plausible scenario is that Herophilus, a well-known Alexandrian intellectual, published the work in his own lifetime, and since *HVA* is not a particularly doxographical text, the fact that some assigned *On Regimen* a title structurally similar to Πρὸς τὰς κοινὰς δόξαι does not particularly bolster the alternative hypothesis that Herophilus' work was entitled by assimilation to the doxographical tradition. If the title was assigned by later Herophileans, it was surely chosen as a suitable description of the contents of the work.

neither in doxographical nor in medical writing;¹⁴ in fact, both in its use of πρὸς with an abstract object and in its reference to κοινὰ δόξαι, it is unusual enough to render unlikely the hypothesis that the title was conceived and added to the work later. The Peripatetic character of a work dealing with κοινὰ δόξαι¹⁵ points rather in the direction of Herophilus himself.¹⁶ I will say more about this shortly. Herophilus was a prominent figure in Alexandrian intellectual culture¹⁷ and, by this time, prominent intellectuals who wanted their works to be read probably did, as a rule, have some concern for the titles of their works, even if this did not guarantee the success and survival of their designation.¹⁸

¹⁴ I have not been able to find any titles of the form πρὸς ... δόξας other than the Hippocratic work discussed in n.13 and below. Other kinds, which do seem to have been in use in medical doxography, include the πρὸς τὰς αἰρέσεις of Serapion (discussed below), the ἀρέσκοντα of the Herophilean Alexander Philaethes (*De diff. puls.* VIII 726.11 K. = T24 von Staden), and the περὶ τῆς ἐμπειρικῆς αἰρέσεως of Heraclides (*De libr. propr.* XIX 38.19–20).

¹⁵ Noted by von Staden (*Herophilus* 395).

¹⁶ As often with ancient works, the title may have been taken from its opening words. Cf. E. Nachmanson, *Der griechische Buchtitel* (Gothenburg 1941) 7–8. So von Staden, in *Ancient Histories of Medicine* 162 n.47.

¹⁷ Aside from his enormous influence in medical thought, there is his apparent association with Diodorus Cronus in an anecdote (Sext. Emp. *Pyr.* 2.245 = T15 von Staden) that reflects his contemporary prominence. Note also the reference to Herophilus' discoveries in Callimachus' *Hymn to Artemis* (see H. Oppermann, "Herophilus bei Kallimachos," *Hermes* 60 [1925] 14–32) and perhaps his *Hymn to Delos* (see G. Most, "Callimachus and Herophilus," *Hermes* 109 [1981] 188–196). Consider also Herophilus' apparent connections with the Ptolemaic court (Cels. *Med.* pref. 23 = T63a von Staden), on which see F. Schironi, "Enlightened King or Pragmatic Rulers? Ptolemaic Patronage of Scholarship and Sciences in Context," in P. Bosman (ed.), *Intellectual and Empire in Greco-Roman Antiquity* (New York 2019) 1–29, at 9.

¹⁸ Nachmanson argues that earlier authors (like those of the older Hippocratic texts) did not, in general, assign their works titles, a practice that begins with the Sophists (*Buchtitel* 31–34; cf. 9–13 on the titles of the

If the title was not Herophilus' own, one plausible explanation is that it arose from the assimilation of his work into the doxographical tradition; alternatively, a portion of one of his works may have taken on this title in transmission (both alternatives are simultaneously possible). That there is not much evidence for other titles in common use with *πρὸς* and *δόξας* makes these hypotheses less appealing. I have found only one title of similar form, which designates a work on the opinions of the Knidian physicians attributed by Julius Pollux to Hippocrates (*Ἱπποκράτης δὲ ἐν τῷ πρὸς τὰς Κνιδίας δόξας*, *Onom.* 10.87.5). Because its usual form, however, seems to have been *Πρὸς τὰς Κνιδίας γνώμας*,¹⁹ the parallel to Herophilus' title is not as close as it seems. Another important difference between them is that it involves a group of people (the Knidian physicians), precisely the type of object with which *πρὸς* more naturally bears a hostile connotation. Galen makes clear that this was an alternative title for *On Regimen in Acute Diseases* (ἡ δίαίτια ἐπὶ τῶν ὀξέων νοσημάτων), the one he himself ordinarily uses.²⁰ It must be noted that on the whole *On Regimen* is hardly

works of Protagoras and Plato). It is otherwise with the surviving treatises of Aristotle, as Nachmanson (at 13) observes, given his students' role in editing and disseminating his treatises. From the examples adduced by Nachmanson one may infer behind this shift a greater concern for the author's public persona.

¹⁹ Galen, who thinks that Hippocrates' authorship was plausible (and mentions competing attributions to Euryphon, Thessalus, and Polybus), refers to it with *Πρὸς τὰς Κνιδίας γνώμας* (*Diffic. resp.* VII 891.6–10 K.; cf. *PHP* IX 6.5.5; *In Hipp. de fract.* XVIIIb.467.6; *In Hipp. de vict. acut.* XV 452.14). This variant is not surprising, since *δόξα* and *γνώμη* must have been deemed interchangeable by later writers. *Πρὸς τὰς Κνιδίας δόξας* must have been derived from *Πρὸς τὰς Κνιδίας γνώμας* (rather than the reverse), not least because the title of the *Knidian Sentences* to which it ostensibly responds has *γνώμη* (e.g. Gal. *In Hipp. epid.* XVIIa.886.4–5 K.).

²⁰ Multiple, different titles should not surprise us if we accept that the works of the Hippocratic corpus were assigned titles in the Hellenistic period, probably by Alexandrian scholars, and for the most part lacked

a polemic against the *Knidian Sentences*, even if its proem is hostile. It is not devoted to taking down the *Knidian Sentences* in the same way, e.g., that Plutarch's Πρὸς Κωλώτην is a polemic against Colotes. Perhaps it was given this title because it responds to the *Knidian Sentences*, even though it is not concerned throughout with the *Knidian Sentences*.²¹ Even if *ex hypothesi* the translation *Against the Knidian Sentences* best captured the sense of the Greek (the title may have been narrowly motivated by the proem),²² the salient fact remains that the “Knidian sentences” are those of Knidian physicians. Therefore, if πρὸς can have a hostile sense here, it is because talking about Knidian opinions entails talking about Knidian physicians.²³ All things considered, this parallel hardly settles the interpretation of Herophilus' title.²⁴

them previously (so Nachmanson, *Buchtitel* 18).

²¹ It is of interest that the Knidian physician Euryphon was considered a possible author of *On Regimen* (that is, of Πρὸς τὰς Κνιδίας γνώμας). Galen mentions elsewhere (*In Hipp. epid.* XVIIa.886.4–5 K.) that some attributed a *Knidian Sentences* to Euryphon (κάν τῆς Κνιδίαις γνώμας). The *Knidian Sentences* seem to have reported views of the Knidian physicians (cf. W. D. Smith, “Galen on Coans versus Cnidians,” *Bulletin of the History of Medicine* 47 [1973] 574–580). That the Knidian physician Euryphon could be placed on either side of this suggests viewing *On Regimen* as participating in a productive dispute. On this view, Πρὸς τὰς Κνιδίας γνώμας would portray it as an inquiry into the subject matter of the *Knidian Sentences*.

²² An anonymous referee rightly points out that this was a common practice, including with Hippocratic texts such as *On Humors* and *On the Nature of Bones*.

²³ Accordingly, though Galen at one point (*In Hipp. de vict. acut.* XV 452.14 K.) understands the title as having hostile connotations with reference to the proem of the work, he explains this as involving criticism “against the Knidian physicians” (ἐδείχθη γὰρ ἐν τῷ δευτέρῳ μηκέτι πρὸς τοὺς Κνιδίους ἰατροὺς τὸν λόγον ποιούμενος, “for he was shown as no longer arguing against the Knidian physicians in the second book,” 452.13–15, 453.1).

²⁴ Perhaps Herophilus conceived of doctors as a group in writing on “common opinions,” but the connection with a distinct group of people is

When it comes to interpreting the scientific significance of κοινὰ δόξαι, a passage from Aristotle's *Physics* is especially suggestive (*Phys.* 4.6, 213a19–22):

In the same way, just as with place, we should also consider it to be the natural scientist's task to investigate void, whether it exists or not, and how it exists, and what it is; because it involves nearly equal belief and disbelief because of what is held about it. For those who discuss it posit the void as a sort of place and vessel, and it is thought to be full whenever it contains the kind of mass that it is capable of receiving, but void whenever it is deprived, on the supposition that the same thing is void, full, and place, but their being is not the same. We should begin the inquiry by grasping the things that are said by those who claim there is void, and in turn what things are said by those who deny there is one, and thirdly the common opinions about them.²⁵

The approach Aristotle takes in this passage to investigating the existence and character of void begins, as often, by surveying the contrasting claims experts have previously made, and then goes on to consider the “common notions” about them (Aristotle has earlier in this book taken a similar approach to the investigation of place, 4.1, 208a27–209a30).²⁶ To judge from the Soranus passage on menstruation, Herophilus seems to

surely much looser in this case, all the more so if “common opinions” has something like its Aristotelian sense.

²⁵ τὸν αὐτὸν δὲ τρόπον ὑποληπτέον εἶναι τοῦ φυσικοῦ θεωρῆσαι καὶ περὶ κενοῦ, εἰ ἔστιν ἢ μή, καὶ πῶς ἔστι, καὶ τί ἔστιν, ὥσπερ καὶ περὶ τόπου· καὶ γὰρ παραπλησίαν ἔχει τὴν τε ἀπιστίαν καὶ τὴν πίστιν διὰ τῶν ὑπολαμβάνομένων· οἷον γὰρ τόπον τινὰ καὶ ἀγγεῖον τὸ κενὸν τιθέασιν οἱ λέγοντες, δοκεῖ δὲ πλήρες μὲν εἶναι, ὅταν ἔχη τὸν ὄγκον οὐ δεκτικὸν ἔστιν, ὅταν δὲ στερηθῆι, κενόν, ὡς τὸ αὐτὸ μὲν ὄν κενὸν καὶ πλήρες καὶ τόπον, τὸ δ' εἶναι αὐτοῖς οὐ ταῦτ' ὄν. ἄρξασθαι δὲ δεῖ τῆς σκέψεως λαβοῦσιν ἅ τε λέγουσιν οἱ φάσκοντες εἶναι καὶ πάλιν ἃ λέγουσιν οἱ μὴ φάσκοντες, καὶ τρίτον τὰς κοινὰς περὶ αὐτῶν δόξας.

²⁶ On this passage see G. E. L. Owen, “*Tithenai ta phainomena*,” in S. Mansion (ed.), *Aristote et les problèmes de méthode* (Louvain 1961) 83–103, repr. G. E. L. Owen, *Logic, Science and Dialectic: Collected Papers in Greek Philosophy* (Ithaca 1986) 239–251, at 241–242.

have done something similar, if not necessarily the same: he mentioned previous physicians who held menstruation to be beneficial for health and procreation, while he himself held a more nuanced position. All this very much suggests that Herophilus began by surveying the opinions held by earlier authorities and then tried to synthesize them, or at least presented his own as accounting for what was true in the opinions of his predecessors.

Soranus mentions later physicians who held that menstruation was not beneficial for health, but affirmed that it was for producing children (most of the Methodist school of medicine); and he adds that a smaller number of Methodists deemed menstruation useful neither for health nor for producing children. It is not clear whether Herophilus was aware of these positions specifically (the Methodists may be picking up on an older tradition), or if he only surveyed the views of those who claimed menstruation to be beneficial on both fronts. If Herophilus was only aware of those who held it to be beneficial,²⁷ then in fact what we find here is Herophilus preserving what he took to be the “common opinion”: he agrees with his predecessors in taking menstruation to be beneficial for producing children, and also agrees that in many cases it is beneficial for health as well. In this case, however, he would have qualified this view by observing cases where menstruation is harmful to health; yet he could have done so without disputing that his predecessors had observed it to be beneficial. Herophilus emerges much more in line with the common opinion he was considering than the later Methodists. If cor-

²⁷ It is of course also possible that Herophilus did mention other views of menstruation as harmful or as neutral; it is possible that Herophilus in some way combined prior observation of menstruation as beneficial with prior observation of menstruation as harmful. But the point stands that the prior opinion that Soranus tells us Herophilus discussed is mostly in line with the opinion that Soranus tells us Herophilus held himself.

rect, this interpretation of the evidence weighs against taking πρός as ‘against’. Instead it suggests a nuanced engagement with this common opinion that in the end preserves the core of his predecessors’ consensus. This is the sort of approach we find in *Physics* 4.6, one that tries to find and hold on to those elements in previous views that are well-founded. The affinity in method and terminology (the shared recourse to κοινὰ δόξαι) between Herophilus and Aristotle lends additional support to considering the title authentic.

There are no other testimonia or fragments of Herophilus explicitly connected with this work. But there is one additional piece of relevant evidence in what Herophilus is reported to have said about the healing of wounds of different shapes (Cassius Iatrosophist *Problemata* 1 1.144 Ideler = T236 von Staden):

Why do round wounds heal with more difficulty than others? The Herophileans assign the cause of this by making use of geometrical demonstration: they say that the circular shapes of these wounds appear to be small in circumference, but are not in fact like this. Rather, they have surfaces larger in area than they seem. And that which is larger needs more time for scarring over. Therefore, it is to be expected that wounds of this kind seem to heal with more difficulty, even if they also seem small: in truth they are not so, but they are larger. Asclepiades evaded this entirely. If when there is a round wound present someone made a cross-incision of the bodies lying around it, in such way that the shape of the wound becomes more elongated from the cross-incision, scarring over would take place more quickly: and this is the opposite of what Herophilus thinks. For if the size of the wound, as they say, is the cause of the difficulty in healing it, since the same size is present and another is added from the cross-incision these wounds should rather become more difficult to heal.²⁸

²⁸ διὰ τί τὰ στρογγύλα ἔλκη δυσκολέστερα καθέστηκε τῶν ἄλλων; οἱ μὲν οὖν Ἡροφίλειοι τὴν αἰτίαν ἀποδιδόασιν γεωμετρικῇ χρώμενοι ἀποδείξει· φασὶ γὰρ

From other sources we learn that the slower healing of round wounds drew attention not only after Herophilus (since Asclepiades is mentioned) but also before him. Aristotle mentions it in the *Posterior Analytics* (1.13, 79a10–16), when he contrasts the physician’s knowledge of the fact with the geometer’s knowledge of the reason. The Hippocratic corpus is aware of the importance of the skin drawing together for the healing of wounds (*Of Places in Man* 38, VI 329 Littré),²⁹ which could supply another explanation that is broadly akin to the one Cassius attributes to Asclepiades. Herophilus’ reasoning seems rather to have been that circular wounds have the smallest ratio of periphery to surface area, something the geometer can attest. While the point is speculative, this might be an instance of the sort of common opinion that Herophilus addressed in his lost work: Aristotle gives the impression that the consensus of physicians was that round wounds heal more slowly; Herophilus seems to have accepted this common opinion and proposed his own explanation of it. This lends further support to the view that in his lost work on common opinions Herophilus engaged κοινὰ δόξαι in medicine in a more constructive than destructive fashion, even if nothing positively ties this testimony with that work.

ὅτι τὰ κυκλικὰ σχήματα τῶν ἑλκῶν μικρὰ μὲν φαίνεται τῇ περιοχῇ, οὐ τοιαῦτα δ’ ἐστίν, ἀλλ’ ἔχει τῇ δυνάμει μείζονα τὰ ἔμβαδὰ ἢ περὶ φαίνεται. τὸ μείζον δὲ πλείονος χρόνου δεῖται πρὸς τὴν ἐπούλωσιν· ὥστε εἰκότως τὰ τοιαῦτα ἔλκη φαίνεται δυσάλθη, εἴ γε καὶ μικρὰ φαίνεται· κατὰ δὲ τὸ ἀληθές οὐχ οὕτως ἔχει, ἀλλ’ ἐστὶ μείζονα. τοῦτο δὲ περικειμένως διεκρούσατο Ἀσκληπιάδης· εἴ τις στρογγύλου ἔλκουσ ὑποκειμένου ἐπιδιέλη τὰ παρακείμενα σώματα, ὥστε ἐκ τῆς ἐπιδιαιρέσεως γενέσθαι ἐπιμηκέστερον τὸ σχῆμα τοῦ ἔλκουσ, θάπτον ἂν γένοιτο ἢ ἐπούλωσις· τοῦτο δ’ ἐναντίον τῷ τοῦ Ἡροφίλου ἀρέσκοντι. εἰ γὰρ τὸ μέγεθος τοῦ ἔλκουσ, ὡς αὐτοὶ φασιν, αἴτιον γίνεται τῆς δυσθεραπευσίας, ἐχρῆν τοῦ αὐτοῦ ὑποκειμένου μεγέθους καὶ ἐτέρου προσγινομένου ἐκ τῆς ἐπιδιαιρέσεως, μᾶλλον γίνεσθαι δυσιατότερα ταῦτα τὰ ἔλκη.

²⁹ Cf. G. Majno, *The Healing Hand* (Cambridge [Mass.] 1975) 154.

2. *The meaning of πρὸς*

When it does not go with a named individual, the usual meaning of πρὸς with the accusative in scholarly³⁰ and intellectual contexts (e.g. Pl. *Plt.* 306A10 or Arist. *Cael.* 307a8) is the neutral, non-polemical one.³¹ This meaning suits Herophilus' aim of relating his own views to those of his predecessors (as discussed below). In scholarly usage πρὸς with accusative is regularly used to indicate an object of inquiry, a *zētēma*.³²

Accordingly, it is certainly possible to render the title of his work “with reference to common opinions” or “in response to common opinions.” Its content would have elucidated where the author stood in relation to common (medical) opinions. Several reasons make this preferable to “against common opinions.” First, as noted above, when not used with a personal

³⁰ Cf. R. Nünlist, “*Topos didaskalikos* and *anaphora*—Two Interrelated Principles in Aristarchus' Commentaries,” in M. R. Niehoff (ed.), *Homer and the Bible in the Eyes of Ancient Interpreters* (Leiden 2012) 113–126, at 121–124; F. Schironi, *The Best of the Grammarians: Aristarchus of Samothrace on the Iliad* (Ann Arbor 2018) 703 n.249.

³¹ An anonymous referee points out that in a therapeutic context (especially in pharmacology) πρὸς with a malady can often be translated ‘against’ (although with a treatment in mind it may also mean ‘with reference to’ or ‘directed at’ the malady). Πρὸς δυσωδίαν μυκτήρων, Πρὸς τὰς ἐκ τόκου ραγάδας, and Πρὸς τὰ ἐν τῇ κεφαλῇ ἐκβράσματα are three examples from the list of remedies in Crito's lost work on cosmetics (Galen *On Compound Drugs According to Places* 1.3, XII 446.14–449.7 K.). Yet even here some instances support the neutral sense of πρὸς, either with the condition sought or addressed by a given treatment or with the person or bodily part the treatment is to act on (bodily part in view at XII 387.2 and 432.14–15; a person at XIII 27.15). Galen also uses πρὸς for what is done with a view to prognosis and treatment (πρὸς τὴν τῶν ἀποβησομένων πρόγνωσην, ἵασίν τε τῶν παρόντων, “with regard to the prognosis of things that will ensue, and the healing of things already present,” XII 442.2). Thus, in a medical context πρὸς with the accusative flags the target or goal of a course of action, whether an outcome, a malady, a part of the body, or a type of patient.

³² So Schironi, *The Best of the Grammarians* 703 n.249.

name πρὸς with accusative is not typically polemical; and second, when ‘against’ is the better choice but the preposition does not govern a personal name the wording makes this clear (e.g. by its use with ἀντιλέγω vel sim., as in Gal. *De usu part.* III 316.5 K.). We do find Sextus Empiricus using πρὸς δόξας polemically, but this seems rather a contextual connotation than a denotation: a Pyrrhonian skeptic who discusses his position vis-à-vis established opinions should be expected to attack them (*Pyrr.* 2.48.9, *Math.* 9.44.1). The normal meaning of πρὸς with δόξας is ‘in relation to’ (see examples below).

Perhaps the Empiricist Serapion of Alexandria was similar to Sextus.³³ Galen wrote two outlines of Empiricism on Serapion’s work πρὸς τὰς αἱρέσεις (*De libr. propr.* XIX 38.13–14 K.). An Empiricist, just like a Pyrrhonian skeptic, might be expected to attack established doctrines while articulating his position in relation to them. I view this as the most compelling evidence against my interpretation of the title of Herophilus’ work. Here it is quite plausible that in a title πρὸς with an impersonal object bears a polemical sense. Yet it is also possible that the sense of πρὸς τὰς αἱρέσεις is “with reference to the sects,” so that Serapion wrote treatises in response to (not against) the sects. Furthermore, to judge from Galen Serapion seems to have outlined his own Empiricist approach in these books. This suggests a combination of constructive and polemical engagement. Most significant for my argument, however, is that specific groups of people are in view under the term αἱρέσεις. If ‘against’ is preferred, given that Serapion must have gone through specific sects, once again the choice fits nicely under the well-defined category of hostile πρὸς with people. It is true that any abstract idea may be set in relation to the people who hold it—there is perhaps not a great difference between speak-

³³ On Serapion see G. Cambiano, “Philosophy, Science and Medicine,” in K. Algra et al. (eds.), *The Cambridge History of Hellenistic Philosophy* (Cambridge 1999) 585–613, at 605.

ing against an idea and speaking against those who hold it. But I submit that “sects” much more concretely point to groups of people than “opinions.” This is the more so with “common opinions.” Although in its Aristotelian sense experts are in view, Aristotle’s usage strongly suggests a neutral rather than a polemical sense.³⁴ A review of other titles with the form πρὸς plus accusative shows that they are plausibly neutral or else involve individuals.³⁵

At the fundamental level of denotation, πρὸς with accusative arguably bears the sense ‘with reference to’, but in certain contexts it may connote ‘against’. Only with distinct people does this connotation cross into the denotative and take an unambiguously polemical acceptation.³⁶

Consider, in closing, Herophilus’ remarks on Hippocrates’ *Prognostic*, twice mentioned by Galen: διασκέψασθαι περὶ τῶν ὑπὸ Ἡροφίλου πρὸς τὸ Προγνωστικὸν Ἱπποκράτους ἀντειρημένον, “to examine the things said polemically by Herophilus against (πρὸς) the *Prognostic* of Hippocrates,” and τὰ κακῶς ὑπὸ Ἡροφίλου γεγραμμένα πρὸς τὰς Ἱπποκράτους προγνώσεις, “the things written

³⁴ Cf. in particular *Cael.* 2.13, 293a17, and 3.7, 306a5–9 (discussed below). To put the point simply, the phrase is Aristotelian but to write “against common opinions” is un-Aristotelian.

³⁵ Titles of numerous works prior to Galen are conveniently listed in his *On My Own Books* (*De libr. propr.*).

³⁶ This is clear in Homeric scholia. To refer to the questions surrounding Pylaemenes, e.g., we find πρὸς τὰ περὶ Πυλαιμένους, πρὸς τὸν Πυλαιμένεα, or πρὸς τὰ Πυλαιμένους (schol. *Il.* 1.320a, 2.517c, 2.837–838, 4.295, and 15.515a). ἡ ἀναφορά with πρὸς is found pointing to an object of inquiry (e.g. schol. *Il.* 12.17a) and with the names of individual scholars where it should mean ‘against’ (e.g. ἡ δὲ ἀναφορά πρὸς Ζηνόδοτον, schol. *Il.* 3.339). I owe these examples to an unpublished paper by Francesca Schironi on the use of πρὸς in Homeric scholia. Cf. further C. M. Schroeder, “A New Monograph by Aristarchus?” *JHS* 127 (2007) 138–141; Nünlist, in *Homer and the Bible* 121–124; Schironi, *The Best of the Grammarians* 703 n.249. Such usages are flagged by distinct wording suggestive of the specification of πρὸς (as ἀντιλέγω before).

by Herophilus in a hostile spirit against the prognoses of Hippocrates” (Gal. *In Hipp. Progn.* 1.4, XVIIIb 16.5 K. = T32–33 von Staden). From Caelius Aurelianus’ translation of Soranus’ work on chronic diseases we learn that Herophilus wrote a book (*liber*) on this subject (*quem ad Hippocratis Prognosticum scripsit, Tardae passionis* 4.8.113 = T31 von Staden). It seems likely, therefore, that there was a Herophilean work known as πρὸς τὸς Ἱπποκράτους προγνώσεις. Two points are relevant here. First, that the object of πρὸς, though not a personal name, occurs in close connection with a personal name. Second, that the work in fact need not have been written in a uniformly hostile spirit: Galen gives more weight to Hippocrates’ than to Herophilus’ authority; even if he does not always yield to Hippocratic authority, he may have taken a failure to show suitable deference for hostility.³⁷ The evidence here (see T261–275) does suggest that Herophilus’ polemical stance towards Hippocrates may be largely Galen’s misreading of his intellectual independence. From the puzzling Hippocratic use of both πρόγνωσις and πρόρρησις, Herophilus seems to have derived an epistemological distinction between types of prognosis, namely that πρόγνωσις refers to reliably accurate prognosis while πρόρρησις refers to a more approximate, less reliably accurate kind of prognosis.³⁸

³⁷ W. D. Smith, *The Hippocratic Tradition* (Ithaca 1979) 191–193, argues that there was no such work of Herophilus πρὸς τὸ Προγνωστικὸν Ἱπποκράτους and that Galen was inflating some of Herophilus’ remarks on common opinions into a full-blown polemic. The attribution in Caelius’ translation of Soranus would simply be a doxographical distortion. But von Staden (*Herophilus* 442) is probably right in viewing such denials as special pleading. Smith’s suspicion that the polemic itself might be Galen’s distortion, however, strikes me as well-founded. Von Staden (429–432) concedes that Herophilus’ work may have been not so much “general *Streitschrift*” as “partially polemical exegesis” (431).

³⁸ Gal. *In Hipp. prorrh.* 5.9.2 CMG = T262 and T264 von Staden. Cf. von Staden, *Herophilus* 431.

Since there are not, as I have shown, any good parallels to lend support to “against common opinions” as the translation of πρὸς τὰς κοινὰς δόξας, and there is no connection to distinct individuals in this expression, the default English rendering of the title should be “with reference to common opinions.”

3. *The significance of the title*

In this section I turn to a discussion of what was involved in Herophilus’ speaking “in reference to” common opinions. A well-known passage on the relationship between phenomena and preexisting belief in Aristotle’s *On the Heavens* provides an important parallel. Aristotle attributes failure to make claims that fit the phenomena to explanations of things with reference to already determined opinions (πρὸς τινὰς δόξας ὀρισμέναις) rather than beginning from first principles.³⁹ In an earlier passage Aristotle complains of those who inquire “not with reference to the phenomena” (οὐ πρὸς τὰ φαινόμενα τοὺς λόγους καὶ τὰς αἰτίας ζητοῦντες, *Cael.* 2.13, 293a17) but rather they pull the phenomena in line with their beliefs (ἀλλὰ πρὸς τινὰς λόγους καὶ δόξας αὐτῶν τὰ φαινόμενα προσέλκοντες, 293a26–27). It seems likely that Herophilus used the expression πρὸς τὰς κοινὰς δόξας, “with reference to common opinions,” with an eye to scientific method: for one thing, as already noted, κοινὰι δόξαι are integral to Aristotle’s method in dialectic and science. Furthermore, Herophilus seems to have discussed scientific method in Aristotelian terms. This is most evident in what he said about beginning from the phenomena: λεγέσθω δὲ τὰ φαινόμενα π[ρ]ῶτα, καὶ εἰ μὴ ἔστιν πρῶτα, “let the phenomena be

³⁹ συμβαίνει δὲ περὶ τῶν φαινομένων λέγουσι μὴ ὁμολογούμενα λέγειν τοῖς φαινομένοις. τούτου δ’ αἴτιον τὸ μὴ καλῶς λαβεῖν τὰς πρώτας ἀρχάς, ἀλλὰ πάντα βούλεσθαι πρὸς τινὰς δόξας ὀρισμέναις ἀνάγειν, “It happens that when they talk about the phenomena what they say does not accord with the phenomena. The cause of this is their not properly taking account of first principles, but rather wanting to refer everything to some already-determined body of opinions” (*Cael.* 3.7, 306a5–9).

said to be first, even if they are not first” (*Anon.Londin.* 21.22–23 = T50a von Staden; cf. X 107 K. = T50b von Staden). Since Herophilus was expressly concerned with scientific method in Aristotelian terms and κοινὰ δόξαι were a point of interest in Aristotelian science, Herophilus’ work on κοινὰ δόξαι probably dealt at least in part with method. A crucial question in Aristotle’s natural science is how one should proceed with reference to opinions established prior to scientific investigation. This is the issue Herophilus meant to address in this work, as opposed to mounting a broad polemic against his predecessors. The question of how to handle common opinions (in medicine, at least) is the philosophical *zētēma* or *problēma* to which the work would have addressed itself.

Of course, to say that Aristotle thought that in the ideal case science does not proceed merely from established belief does not mean that he thought doing so illegitimate in all cases. In fact, even in *On the Heavens* (2.12, 292a7–9) Aristotle seems to proceed from the claims of the ancient Babylonian and Egyptian astronomers, though these claims have very specifically to do with what prior astronomers have observed as the phenomena of planetary motion themselves, rather than with more abstruse doctrines.⁴⁰ Another noteworthy instance is found in the *Generation of Animals*, though here with important qualifications (*Gen.An.* 3.11, 760b27–33):

From a theoretical account and from what is thought to be the case (συμβαίνειν) concerning them, the matters touching the generation of bees seem have this character. In truth the attendant facts (τὰ συμβαίνοντα) have not been sufficiently determined, but if ever they are determined then we ought to put more credence in perception than in theoretical accounts, and in theoretical accounts only if what they show agrees with

⁴⁰ I thank an anonymous referee for drawing my attention to this and the following passage from the *Generation of Animals*.

the phenomena.⁴¹

Here the contrast is between theoretical accounts (οἱ λόγοι) and what is thought to be the case (τὰ συμβαίνειν δοκοῦντα) on the one hand, and what is observed to be the case (τὰ συμβαίνοντα, ἢ αἴσθησις, τὰ φαινόμενα) on the other. Aristotle makes clear that preexisting opinion (especially when it comes to the testimony of experts regarding the phenomena, as in *Cael.* 2.12, 292a79) can provide valuable starting points for inquiry, but that direct observation is much to be preferred. If Herophilus was operating within an Aristotelian scientific framework, then it would make good sense for him to investigate established opinions and, where the phenomena were not at hand, to make use of them as Aristotle does.

This point about the title of the work is not mere quibbling about translation: if it were right to render it “against common opinions,” we could take Herophilus to have argued that well-established views should be given no credence simply by virtue of their being well-established.⁴² Yet, according to Galen, even though Herophilus denied that knowledge of causes is possible, he nevertheless accepted them on a hypothetical basis; his justification was that “it appears so to many people” (*utens eis dicendo multis hominibus sic videri, CP* 197 = T59a von Staden).⁴³ Arguably, then, Herophilus held that appeal to established opinion is legitimate, but also that anything claimed on this basis should

⁴¹ ἐκ μὲν οὖν τοῦ λόγου τὰ περὶ τὴν γένεσιν τῶν μελιττῶν τοῦτον ἔχει φαίνεται τὸν τρόπον καὶ ἐκ τῶν συμβαίνειν δοκοῦντων περὶ αὐτάς· οὐ μὴν εἴληπται γε τὰ συμβαίνοντα ἰκανῶς, ἀλλ’ ἐάν ποτε ληφθῆ τότε τῇ αἰσθήσει μᾶλλον τῶν λόγων πιστευτέον, καὶ τοῖς λόγοις ἐὰν ὁμολογούμενα δεικνύωσι τοῖς φαινομένοις.

⁴² So Tieleman, in *Ancient Medicine in its Socio-Cultural Context* II 494.

⁴³ Though J. Allen has convincingly argued that Galen misunderstands Erasistratus in this work (“Galen as (Mis)informant about the Views of his Predecessors,” *AGPh* 83 [2001] 81–89), I think we can trust Galen here, both because he is not so hostile to Herophilus as he is to Erasistratus and because there is nothing especially complicated for Galen to misunderstand.

be open to revision. This suits Herophilus' position on the usefulness of menstruation as Soranus relates it: the prior view that menstruation is always beneficial is not, for Herophilus, entirely wrong, but too categorical, since menstruation is sometimes beneficial, sometimes harmful. Perhaps Herophilus considered this doctrine the result of over-hasty generalization.

4. *Conclusion*

I have argued that Greek usage does not lead us to expect a title of the form πρὸς τὰς κοινὰς δόξας to bear a hostile connotation, even if it does not entirely preclude it. What else we know about Herophilus and his work makes it less rather than more likely that he should have written a general polemic against common opinions. From these two points, taken together, I conclude that the title of the work should be rendered "in reference to common opinions" or "in response to common opinions," and not "against common opinions." Herophilus has been variously seen as a skeptic in his approach to natural science.⁴⁴ Yet from the present case his approach to the role of established opinion in natural science should seem constructive when compared to Aristotle's in its more exacting expressions (e.g. at *An.post.* 2.19, 99b32–100b17):⁴⁵ while the evidence of what is generally believed to be the case should not supply premises for Aristotelian scientific investigation, Herophilus

⁴⁴ Kudlien, *Gesnerus* 21 (1964) 1–13, and R. J. Hankinson, "Saying the Phenomena," *Phronesis* 35 (1990) 194–215, at 207–212. Cf. von Staden, *Herophilus* 117–124 and 244–247; D. Leith, "Causing Doubts: Diodorus Cronus and Herophilus of Chalcedon on Causality," *CQ* 64 (2014) 592–608; M. Vegetti, "L'epistemologia della medicina ellenistica," *Lexicon Philologicum* (2018) 264–278, at 264–268.

⁴⁵ Admittedly, things are more complicated when one looks at the way Aristotle actually approaches scientific investigation in the extant treatises. On the issues surrounding ἐνδοξα, dialectical argument, and Aristotelian science see Owen, in *Logic* 239–251; Tieleman, in *Ancient Medicine in its Socio-Cultural Context II* 487–495; H. Baltussen, *Theophrastus against the Presocratics and Plato* (Leiden 2000) 31–70; Frede, *OSAPh* 43 (2012) 185–215.

seems to have considered addressing established opinion not only as a crucial part of the scientific method but also as the grounds, at least in some cases (as in *CP* 197 = T59a von Staden), for making qualified claims about the world.⁴⁶

August, 2022

The University of Michigan
acmayo@umich.edu

⁴⁶ I owe many thanks to Francesca Schironi, who read through multiple drafts of this article and whose advice has proved invaluable. I also thank the anonymous referees and José M. González for their suggestions, which greatly improved the article.