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The essence of rage: Galen on emotional disturbances and their physical correlates¹

As is well known, Galen makes a strong claim about the dependence of the soul upon bodily mixtures, and gives a detailed account of the capacities of the soul understood in their physiological function, located in specific organs in the body. He does those two things in two of his most philosophically interesting and better-known writings - *Quod animi mores Hippocratis et Platonis* - and amongst Galen's works it is these that have attracted probably the most scholarly attention and philosophical analysis in recent years.

In the present paper I aim to explore the related area of how, for Galen, emotional states - the soul's affections, or *pathē* - are connected with bodily states. I shall be doing this largely on the basis of texts which are much less well studied - even amongst Galen scholars - than those just mentioned, and in particular ones which are not overtly works of 'psychology' or soul theory at all. In the process I shall be focussing on one particular group of common, we might say everyday, mental or emotional disturbances which Galen discusses, in some detail, in relation to their physical correlates. It is, indeed, striking that most of the detailed material that Galen offers in this area - most of the discussion of this particular set of disturbances - appears, not in his specific work on the affections of the soul, *Aff. Pecc. Dig.*, nor in the other most obviously psychological works, *PHP* or *QAM*, but in a range of more general, medical works on disease, health and diagnosis.²

¹ I should like to express my gratitude to the organizers of the conference held in honour of Chris Gill at Exeter in July 2013 for the invitation to participate; and to the other participants at the conference for their valuable contributions in the discussion of this paper. I am particularly grateful to Heinrich von Staden, as well as to David Sedley, for extremely helpful remarks. I must also acknowledge the generous support of the Wellcome Trust, which funded the project 'Towards a Galen in English', in the course of which this paper was written.

² Recent work on Galen's 'psychology' or soul theory has been voluminous, and of a high level of scholarly and philosophical sophistication; it has, however, tended to focus almost exclusively on Galen's works of 'philosophical psychology', largely ignoring the much larger corpus of his medical ones. To the three mentioned so far, *PHP*, *Aff. Pecc. Dig.* and *QAM*, one may, in this context, add the *De moribus*, a work preserved only in an Arabic summary, and the recently-discovered *De indolentia*. Prominent among such philosophical studies are: García Ballester (1972), Donini (1974), (1980), (1988), (1992), (2008); Manuli and Vegetti (1977), as well as the papers assembled in Manuli and Vegetti (1988); Vegetti (1984), (1999a), (1999b); Manuli (1986), (1993), Lloyd (1988), Hankinson (1991a), (1991b), (1992), (1993), (2006); Singer (1992), (1996); Tieleman (1996), (2003); Gill (1998), (2007); Bazou (1999); van der Eijk (2009); Jouanna (2009); Rosen (2009); Schiefsky (2012). And a particular advance in philosophical analysis of the works mentioned above was represented by the monographic study of Galen's psychology in its philosophical context by the honorand of the present volume: Gill (2010). See now Singer (2013), both for discussion of *De indolentia* (as well as further bibliography on it), and for detailed analysis of and commentary on all the works mentioned above, except for *PHP*.

It is true that philosophical analysis has sometimes included such texts as *De usu partium*, *De temperamentis*, *De foetuum formatione*, *De semine*; but even these are works

The essence of rage

In a passage in his great work on health, Galen makes the following statement about rage (*thumos*):

'Now, rage is not simply an increase, but as it were a kind of boiling of the hot in the heart; which is why the most reputable philosophers state that this is its essence; for the appetite for revenge is an incidental feature, and not the essence, of rage.'

ὁ μὲν γε θυμὸς οὐδ' ἀπλῶς αὐξήσις, ἀλλ' οἷον ζέσις τίς ἐστι τοῦ κατὰ τὴν καρδίαν θερμοῦ - διὸ καὶ τὴν οὐσίαν αὐτοῦ τῶν φιλοσόφων οἱ δοκιμώτατοι τοιαύτην εἶναι φασί - συμβεβηκὸς γάρ τι καὶ οὐκ οὐσία τοῦ θυμοῦ ἐστὶν ἢ τῆς ἀντιτιμωρήσεως ὄρεξις.

(*San. Tu.* II.9, 61,24-8 Koch, VI.138 Kühn; translations are my own unless otherwise stated)

The statement here that 'the boiling of the hot in the heart is the essence of rage' raises a number of questions. Among them: who are 'the most reputable philosophers' to whom Galen attributes this view; and, conversely, who are the polemical targets of the latter part of the sentence - those who, by implication, believe, rather, that 'appetite for revenge' is the essence of *thumos*?

But, more fundamentally, what is at stake in the claim itself: that 'the boiling of the hot in the heart', and not 'appetite for revenge', is the *essence* of rage?

From a modern philosophical point of view, Galen seems here to be taking a stand on a substantive issue in the philosophy of mind, regarding mental states. Mental states, Galen appears to be saying, must be defined in terms of their physical features, rather than experiential or intentional ones. Clarification of the precise nature of this claim will be of considerable interest, both in terms of the philosophical analysis of a particular ancient view in the philosophy of mind and in terms of its ramifications in Galen's own medical and psychological thought. The view in question looks like a reductivist one; we might, further, be tempted to consider whether, in modern philosophical terms, it represents some kind of type identity theory, or a variety of epiphenomenalism or supervenience theory.

largely devoted to physical or physiological theory, rather than to the clinical or diagnostic context. An important step in the study of a wider range of texts was made by Paola Manuli (1988), as further discussed below; and one should make particular mention of the work of Heinrich von Staden (e.g. 2000, 2011) as extending the range of Galenic texts studied beyond the realm of the purely philosophical: the latter article indeed is especially relevant to the theme of the present paper. There has also recently been some more wide-ranging work on Galen's discussions of mental illness: as well as the case studies assembled in Mattern (2008), see Boudon-Millot (2013), Holmes (2013) and Jouanna (2013), and now especially Devinant (forthcoming) and Singer (forthcoming).

But let us look at both the language of the claim, and its immediate context, more closely.

Galen is using terminology which is, at least at some remove, Aristotelian. The term *ousia* is used very widely in Galen, and there is a range of meanings. He quite frequently uses the term to refer to various kinds of physical matter in the body - 'substance' in something like the modern everyday English sense, rather than any Aristotelian one.³ But, fairly clearly, this is not the relevant sense here. Here, the sense seems similar to that which one finds in other logical or analytical contexts.

'... one should find the fitting and appropriate premises in the actual essence of the matter under enquiry ... when Chrysippus considers the subject of the leading part of the soul, we should state the account of the essence of the matter we are enquiring about, and use this as a yardstick and aim in all the individual [arguments].'

... ἀπ' αὐτῆς χρῆ τῆς οὐσίας τοῦ ζητουμένου πράγματος ἐξευρίσκειν τὰ προσήκοντά τε καὶ οἰκεία λήμματα ... ἐν οἷς Χρύσιππος ἐπισκοπεῖται περὶ τοῦ τῆς ψυχῆς ἡγεμονικοῦ τὸν τῆς οὐσίας λόγον εἰπόντας ὑπὲρ οὗ ζητοῦμεν πράγματος ἐκείνῳ χρῆσθαι κανόνι τε καὶ σκοπῶ τῶν κατὰ μέρος ἀπάντων.

(*PHP* II.3, 108,27-31 De Lacy, V.219 Kühn)

'You may perhaps think that the examination that I am recommending is a long one; but at least it is truthful, above all things, taken as it is from the very essence of the subject under enquiry, as discussed in my work on *Demonstration*.'

μακρὰν ἴσως σοι δόξω λέγειν τὴν ἐξέτασιν ἀλλ' ἀληθῆ γε παντὸς μᾶλλον ἐξ αὐτῆς τε τοῦ ζητουμένου τῆς οὐσίας λαμβανομένην, ὥσπερ ἐν τοῖς ὑπὲρ ἀποδείξεως ἐλέγετο.

(*Temp.* II.2, 53,4-7 Helmreich, I.592-3 Kühn)

These two passages, I think, make fairly clear what is meant by *ousia*. One could, to be sure, add further relevant ones: one might consider, for example, a passage in *QAM* 2 which links the *ousia* of something inextricably with its

³ Many examples could be provided; I give just four for the sake of exemplification: the underlying substance for the regenerative process (ἡ ... ὑποβεβλημένη πρὸς τὴν γένεσιν ... οὐσία) is menstrual blood, *De semine* II.2, 162,20 De Lacy, IV.611-12 Kühn; sometimes bodies depart from their natural state only in terms of the four qualities, with no other substance coming in from outside (μηδεμίας ἐξωθεν ... ἐπιρρυσίσης ἐτέρας οὐσίας), *Caus. Morb.* 6, VII.21 Kühn; one particular kind of increase in the internal heat arises through the airy substance (ἀερώδης οὐσίας) alone having been heated, *Diff. Feb.* I.1, VII.276 Kühn; mixtures are responsible for bringing about the specific substance of the parts (τὴν ἰδίαν οὐσίαν τῶν μορίων συμπληροῦσιν) in human or animal bodies, *De usu partium* I.9, i.18,25 Helmreich, III.26 Kühn.

capacities (*dunameis*) and activities (*energeiai*),⁴ or one at the beginning of *Diff. Feb.* which asserts the importance of making the distinctions between different types of fever according to their *ousia*, rather than according to *sumbebēkos*.⁵

To talk of something's *ousia*, in the relevant sense, is for Galen to talk of the essential nature of that thing, or of what it is according to its true definition. And *ousia*, essence, in this sense (e.g. in the *Diff. Feb.* text just mentioned) is crucially distinguished from *sumbebēkos*, which we might provisionally translate 'non-essential property' (but more on this below).

Now, the reference to Aristotle is relevant to the first question I raised above, the identity of 'the most reputable philosophers'. It seems, on the basis of fairly clear verbal echoes (as I have argued elsewhere⁶), that this is in fact a reference, however indirect, to Aristotle, and to what Galen takes to be his view in the well-known passage of book I of the *De anima* about the relationship between the different accounts which a *phusikos*, or student of nature, and a dialectician will give of the affections of the soul.

'So a *phusikos* and a dialectician would define each of them [sc. the affections of the soul], such as what anger is, differently: the latter [would define it as] the appetite for retaliation, or something of that sort, while the former would define it as the boiling of blood or of the hot around the heart. Of these, the one gives the matter, the other the form and rationale [or definitional account]. For the rationale is the form of the thing, and this must be [realized] in a certain kind of matter, if it is to be ...'

διαφερόντως δ' ἂν ὀρίσαιντο φυσικός τε καὶ διαλεκτικός ἕκαστον αὐτῶν, οἷον ὀργή τί ἐστίν – ὁ μὲν γὰρ ὄρεξιν ἀντιλυπήσεως ἢ τι τοιοῦτον, ὁ δὲ ζέσιν τοῦ περὶ καρδίαν αἵματος καὶ θερμοῦ. τούτων δὲ ὁ μὲν τὴν ὕλην ἀποδίδωσιν, ὁ δὲ τὸ εἶδος καὶ τὸν λόγον. ὁ μὲν γὰρ λόγος ὅδε τοῦ πράγματος, ἀνάγκη δ' εἶναι τοῦτον ἐν ὕλῃ τοιαδί, εἰ ἔσται ...
(*De anima* I.1, 403a29-403b2)

If that is the case, it would also seem to be the case that Galen misremembers, distorts or - to put it at its weakest - strongly interprets the passage. Aristotle presents the 'appetite-for-revenge' definition, that of the dialectician, as corresponding to the *form* and *logos* of the emotion, and the 'boiling-of-the-hot' definition, that of the *phusikos*, as corresponding to its *matter*. Though the terminology of *ousia* is not used at this point, the Aristotelian talk in terms of *eidos* and *logos* seems to bring us close to what Galen would mean by *ousia*: it would seem to be the dialectician, here, who has the more central, or definitional, account. To the extent, then, that Aristotle's conception of the 'form//logos' account may be assimilated to Galen's conception of the account in terms of *ousia*, Galen has in effect

⁴ QAM 2, 33,4-16 Müller, IV.768-9 Kühn (the passage is admittedly not textually unproblematic; see now Singer (2013) ad loc. for discussion).

⁵ *Diff. Feb.* I.1, VII.273 Kühn.

⁶ Singer (2014): 27-29.

reversed the terms of Aristotle's dichotomy, equating the material explanation with this dialectician's 'form/logos' account rather than with that of the *phusikos*.

It is, moreover, an important feature of Aristotle's discussion, in the passage closely following that cited here (403b7-9), that *both* the matter and the *logos* are needed for a full account; and this perception is lost in Galen's version.

I am not, however, directly concerned here with Galen's relationship with Aristotle, let alone with the correct interpretation of Aristotle's theory of the soul in relation to the body. The latter is, of course, a notoriously difficult question, and one which has attracted far more philosophical discussion than the equivalent question for Galen.⁷

We are here seeking to shed light on Galen's own intellectual framework. Returning to the passage from *De sanitate tuenda*: we have so far clarified that by the '*ousia*' of rage, he means what rage is in its proper definition, or what it most fundamentally is. The further implications of this view of rage remain to be examined.

Now, this must depend partly on how we understand the term opposed to *ousia*, that is *sumbebēkos*. Again, the heritage of the term is undeniably Aristotelian. There is, however, here too, a range of possible usages. Although the broad thrust of an *ousia-sumbebēkos* opposition is clear - the former will correspond to something in some sense prior and central, the latter to something in some sense subsidiary - the question, in *what* senses, precisely, remains to be determined. What, exactly, does Galen mean by describing the 'intentional' definition of rage (appetite for revenge) as a *sumbebēkos*?

Within Aristotle and Aristotelian writing, *sumbebēkos* refers to an incidental property of a thing: something, to summarize, which either does not belong to that thing in virtue of its true nature, is not essential to its definition, or is not its relevant feature in relation to a particular argument. It is, in some cases at least, explicitly stated that a *sumbebēkos* is something not necessary - something which may or may not be present. There is, further, a distinction between things which are *sumbebēkota* and which are *kath' hauta*, in themselves. And something's *sumbebēkota*, as well as its *pathē*, are things which a demonstration may show (rather than legitimate starting-points of a demonstration).⁸ On the other hand, there seems to be a distinction *within* the category of *sumbebēkota*, and at points an association of the notion of

⁷ A very selective, but high-level, representation of recent discussions would be that provided by the following essay collections: Barnes, Schofield and Sorabji (1979), Durrant (1993); Everson (1991); Nussbaum and Rorty (1995). More specific attention is paid to Aristotle's biological works and their contribution to this debate in, e.g.: Nussbaum (1978), Gotthelf and Lennox (1987), van der Eijk (2000).

⁸ See e.g. *Po* I.21, 83a4-9 (the whiteness of a particular piece of wood, which is not a necessary property of the wood); *ibid.* I.4, 73b3-4 (the distinction between καθ' αὐτά and συμβεβηκότα); *ibid.* I.6, 74b12 (τὰ ... συμβεβηκότα οὐκ ἀναγκαῖα); *ibid.* I.7, 75a42-b2 (*sumbebēkota* as points shown by a demonstration).

sumbebēkos with something 'specific' or 'proper' (*idion*) to a subject.⁹ The use of the term *sumbebēkos* in conjunction with *idiai*, perhaps significantly, seems to have its closest Aristotelian parallel, again, in the *De anima*. In a discussion of method, it is stated that one might think there to be:

μία τις ... μέθοδος κατὰ πάντων ὧν βουλόμεθα γνῶναι τὴν οὐσίαν,
ὥσπερ καὶ τῶν κατὰ συμβεβηκὸς ἰδίων ἀπόδειξις.

(I.1, 402a13-15)

The notion of the 'specifically incidental', or 'specific attribute' (Ross has 'consequential attributes') as closely associated with, though distinct from, *ousia*, as well as the idea that there can be demonstration in this area, is, as we shall see, closely paralleled in Galen's writings.

Moving outside the Aristotelian corpus, furthermore, we find that the term *sumbebēkos* in later Greek philosophical writing seems to acquire a much more general sense of 'attribute'; and, relatedly, that it can be taken as the starting-point for a demonstration; and this broader usage has undoubtedly been influential on Galen.

What Galen means by *sumbebēkos* in the *De sanitate tuenda* passage, in fact, seems to be clarified by another passage from *PHP*. In his presentation of the arguments about the location of soul-capacities in that work - the rational in the brain, the spirited in the heart and the desiderative in the liver - Galen, as we have already seen, asserts the importance of starting one's demonstration from the *ousia* of the subject in question. But, when it comes to the third part of the soul, he admits that the argument cannot proceed in quite the same way.

'... we stated in advance that the demonstration would not be from equally manifest things nor directly from the nature of the thing under enquiry ... but from its specific properties.'

... προειπόντες ὡς οὐκ ἐξ ὁμοίως ἐναργῶν οὐδ' ἐξ αὐτῆς ἀντικρὺς τοῦ
ζητουμένου τῆς φύσεως ἢ ἀπόδειξις ... ἀλλ' ἐκ τῶν τούτῳ συμβεβηκόντων ἰδίᾳ.

(*PHP* VI.3, 372,19-22 De Lacy, V.519 Kühn)

The term *sumbebēkota* seems here to require translation as 'properties' rather than as 'incidental properties', and indeed these are properties specific (*idiai*) to the thing in question, so it is not the case that they are incidental in the sense of their presence or absence being a matter of indifference. What Galen has in mind here with the term *sumbebēkota* is the properties of the liver and veins; arguments about these - which proceed on the basis of an

⁹ *Po.* I.22, 83b19-20 (some *sumbebēkota* are *kath' hauta*, some in a different way); cf. *ibid.* I.7, 75a42-b2 and *ibid.* I.6, 75a20-22, the latter also implying two different kinds of *sumbebēkos*; the text at *Prior.* I.31, 46b26-27 has the terms *sumbebēkos* and *idion* in parallel, and cf. the use of *idia* at *ibid.* I.27, 43b1-5.

analogy with plants, and of observed anatomical structures - are not based in the *ousia* of the subject being investigated, that is the desiderative soul, because we are not observing anything which could be expressed directly as a statement about the desiderative soul itself; but we are observing something about the anatomical features which, Galen hopes to persuade us, are intimately associated with it. So the term *sumbebēkos* here - coupled with *idiai* - seems to refer to something which always accompanies the *ousia* in question, something, indeed, which provides the basis for a substitute argument when arguments from *ousia* are not available.

This sense of *sumbebēkota*, in conjunction with some form of the word *idios*, to indicate something which is not itself the *ousia* of an object, but is in some indissociable way related to it, has parallels elsewhere in Galen too. For example, in chapter 4 of the *Ars medica*, Galen is talking about healthy bodies and the *diagnōsis* - recognition or distinguishing - of them. A twofold distinction arises:

'One must carry out the *diagnōseis* of them on the basis of [a] things which belong to them in virtue of their fundamental *ousia*, and [b] the activities and symptoms which necessarily follow upon these - things which, indeed, we call 'specific properties.'

τὰς διαγνώσεις δὲ αὐτῶν ἀπὸ τε τῶν ὑπαρχόντων κατὰ τὸν τῆς οὐσίας αὐτῶν λόγον χρῆ ποιῆσθαι, καὶ τῶν ἐξ ἀνάγκης τούτοις ἐπομένων ἐνεργειῶν τε καὶ συμπτωμάτων, ἃ δὴ καὶ συμβεβηκότα καλοῦμεν ἰδίως.

(*Ars medica* 4, 282,18-283,3 Boudon, I.314 Kühn)

It is further clarified that what is understood under [a] is the best balance of the homogeneous parts in terms of hot, cold, dry and wet, as well as (at the higher level) the appropriate structural excellences of the organic parts; while what is understood under [b], that is the *sumbebēkota idiōs*, are: at the lower level, the properties discernible by touch and sight and, at the higher, the overall balance and beauty of the bodily organs; at both levels, too, included under this latter heading are the excellences of the relevant activities. Here, then, properties, including activities, which *follow of necessity* from a particular *ousia* are described as *sumbebēkota idiōs*.¹⁰

A text from *De sanitate tuenda* further supports this understanding of *sumbebēkota*:

'For the study of health (as also that of therapy) consists in these three classes primarily: bodies, causes and signs: the bodies are the actual healthy bodies ... the signs are those incidental to them [or those which are properties of them], from which they are discerned; the causes are those by which the safe-guarding of health comes about.'

ἐν τρισὶ γὰρ τούτοις γένεσι πρώτοις ἐστὶν ἡ ὑγιεινὴ πραγματεία, καθάπερ καὶ ἡ θεραπευτικὴ, σώμασί τε καὶ αἰτίοις καὶ σημείοις, σώμασι μὲν αὐτοῖς τοῖς

¹⁰ Cf. also a somewhat similar usage, distinguishing the investigation of an organ's *structure* from that of the ἴδια συμβεβηκότα of its activity, at *De instrumento odoratus* 3, II.863 Kühn.

ὕγιαίνουσιν ... σημείοις δὲ τοῖς συμβεβηκόσιν αὐτοῖς, ἐξ ὧν διαγινώσκεται, αἰτίοις δέ, ὑφ' ὧν ἡ φυλακὴ τῆς ὑγείας γίνεται.

(*San. Tu.* I.13, 36,3-7 Koch, VI.78 Kühn)

Again, *sumbebēkota* are intimately connected with the phenomenon in question, in this case bodies and their health - so intimately connected, in fact, that one can use the *sumbebēkos* as a sign (*sēmeion*) by which that state of health can be discerned (even though, in this particular case, the terminology of *idios* is not employed).

Turning back to our original *De sanitate tuenda* text, we are, I think, now a position to rule out one thing that Galen might have meant by saying that appetite for revenge was *sumbebēkos*. The argument could, on one interpretation of *sumbebēkos*, have been taken to mean that one can be in a rage without having the mental experience of appetite for revenge. And such a view could then have had the further implications, (1) that 'appetite for revenge' is too narrow, or too vague a description, since the single item 'rage' (which, we must understand, is defined in terms of physical phenomena in the body) may be accompanied by a range of different descriptions of personal experience; or even (more strongly) (2) that one may, in fact, be in a rage without knowing it, or while thinking that one is in the grip of some other *pathos*. Since its fundamental description is a physical one, it might happen to be the case that all the usual physical features were present in a person, but that that person did not feel that she or he was in a rage; in such a case, that condition would still be correctly defined as rage. The medical expert, but not necessarily the subject, will be the authority on when rage is taking place.

Now, I do not think that Galen is in fact making either of these claims. (He does, as we shall see later, discuss the possibility of being wrong about emotions - but only about other people's emotions.)

To the contrary, in fact, Galen seems very clearly, in the passages which we have just considered, to regard this kind of *sumbebēkos* as indissociable from, or inevitably following upon, the item to which it is related (Ross's 'consequential attribute'). In the last case cited, in fact, the participle is used adjectivally rather than substantivally, and refers to *sēmeia*, 'signs'; the implication, though, is that a relationship of sufficient regularity is involved in this *sumbainein* on the part of the *sēmeia*, that they can, indeed, be used as signs of what is happening in the bodies. In the *PHP* text, the indissociability of *sumbebēkota* of this kind from the *ousia* to which they attach is such that these *sumbebēkota* can be used in a demonstration concerning that *ousia* (albeit not a demonstration of the most reliable kind); and in that from *Ars medica* the relationship is one of 'following of necessity'.

This, though, has hardly solved the puzzle inherent in Galen's peculiar form of expression. If he agrees that the 'appetite for revenge' will, in fact, always be present in cases of rage, what is at stake in claiming that this is an attribute or property, and not the essence, of rage?

Certainly he is asserting the priority of the physical description of rage. And doubtless, too, his statement here can be seen as belonging within the

rhetorical framework which insists on the priority of the doctor's knowledge of what happens in the human being - including within the human being's soul.

Is Galen then claiming *causal* priority for the physical account (as one might think, for example, on the basis of the above *Ars medica* text)? In this case, we might characterize his philosophical position as a reductivist physicalist one, and probably indeed as a version of epiphenomenalism: the 'appetite for revenge' is then the epiphenomenon, but all that is happening in body and soul can be causally accounted for in physical terms.

Before deciding this, we need to look further, in particular at the nature of the causal claims that are being made with regard to rage and its physical correlates. (We shall then return again once more to consider the question of Galen's relationship with modern positions in the philosophy of mind, below under 'Reciprocal soul-body relations'.)

Physical correlates of a range of soul affections

In order to gain some clarity as to what *is* the nature, and importance to Galen, of his assertion of the priority of the physical description of the *pathos*, let us look, first at the broader context of the statement with which we started, and then at some other relevant texts from elsewhere in the Corpus.

Our first text appears in a treatise devoted to provisions for the maintenance of health. Within that, the rather distant starting-point that leads into this passage is a discussion of exercise. Proceeding from that general area, *via* a classification of the different possible forms of increase of the innate heat, Galen finds himself (albeit briefly) characterizing the physical differences that arise in soul-affections. This, then, is the context: different forms of increase of the innate heat. Alongside *thumos*, he identifies two other soul-affections, *agōnia* and *aidōs*. These also involve increase in heat, but the specific manifestations are different in each case (although there is quite a close similarity between the physical manifestations in the latter two, shame and anxiety).

'And this [sc. an increase in innate heat] is common to all exercises; but it is not specific to them, since, indeed, an increase in innate hotness arises also in those experiencing rage, anxiety and shame. Now, rage is not simply an increase, but as it were a kind of boiling of the hot in the heart; which is why the best-reputed philosophers state that this is its essence; for the appetite for revenge is an incidental feature, and not the essence, of the rage. The internal heat increases in those suffering shame too, as all of the hot courses together to the inside, and then gathers deep down, and then increases both because of that gathering and because of the constant motion. For the breath is not at rest in people in a state of shame, but is stirred about all over the place both inside and about itself, just as it is in people in a state of anxiety.'

καὶ τοῦτο κοινὸν μὲν ἀπάντων τῶν γυμνασίων, οὐ μὴν γε ἴδιόν ἐστιν, εἴ γε δὴ τοῖς θυμωθεῖσι καὶ τοῖς ἀγωνιάσασι καὶ τοῖς αἰδεσθεῖσιν αὐξήσις τῆς ἐμφύτου γίνεται θερμότητος. ὁ μὲν γε θυμὸς οὐδ' ἀπλῶς αὐξήσις, ἀλλ' οἷον ζέσις τίς ἐστι

τοῦ κατὰ τὴν καρδίαν θερμοῦ · διὸ καὶ τὴν οὐσίαν αὐτοῦ τῶν φιλοσόφων οἱ δοκιμώτατοι τοιαύτην εἶναι φασί · συμβεβηκὸς γάρ τι καὶ οὐκ οὐσία τοῦ θερμοῦ ἐστὶν ἢ τῆς ἀντιπιμωρήσεως ὄρεξις. αὐξάνεται δὲ καὶ τοῖς αἰδεσθεῖσιν ἢ ἔμφυτος θερμότης, εἴσω μὲν τὰ πρῶτα συνδράμοντος ἅπαντος τοῦ θερμοῦ, μετὰ ταῦτα δ' ἄθροισθέντος ἐν τῷ βάθει, κᾶπειτα αὐξηθέντος καὶ διὰ τὴν ἄθροισιν μὲν τὴν ἐνταῦθα καὶ διὰ τὴν κίνησιν δὲ τὴν συνεχῆ. οὐ γὰρ ἡσυχάζει τὸ πνεῦμα τῶν αἰδομένων, ἀλλ' ἔνδον τε καὶ περὶ αὐτὸ μετὰ τοῦ σύμπαντος αἵματος κυκᾶται πολυειδῶς, ὥσπερ γε καὶ τὸ τῶν ἀγωνιῶντων.

(*San. Tu.* II.9, 61,21-34 Koch, VI.138-139 Kühn)

So, we now have two more soul-affections, and again an insistence on the particularity of their physical *differentiae*.

Galen tells us that he will say some more about 'all such affections of the soul' later in the work; and he does, in book IV.

'And this happens to them because of cold, trembling, or an affection of the soul, such as fear, violent distress or incipient shame; if none of these is present, the humours would never retreat back to the depth; similarly, the humours would never burn the skin by rushing towards it violently unless the soul were undergoing some affection, or an immoderate warmth were befalling the animal from outside. With people who have become violently angry or enraged, therefore, or when they are presenting the back-flow, as it were, of humours from shame, do not pay attention to the colour ...'

συμβαίνει δ' αὐτοῖς τοῦτο διὰ κρύος ἢ ρίγος ἢ πάθος ψυχῆς, οἷον φόβον ἢ λύπην ἰσχυρὰν ἢ ἀρχομένην αἰδῶ · μηδενὸς δὲ τούτων παρόντος, οὐκ ἂν ποθ' ὑπονοστήσειαν εἰς τὸ βάθος οἱ χυμοί, ὥσπερ οὐδ' ἐπικαύσαιεν ἂν ποτε τὸ δέρμα βιαιότερον ὀρμήσαντες ἐπ' αὐτὸ χωρὶς τοῦ παθεῖν τι τὴν ψυχὴν ἢ θάλπος ἄμετρον ἔξωθεν περιστῆναι τῷ ζῳῷ. ὀργισθέντων οὖν ποτ' ἰσχυρῶς ἢ θυμωθέντων ἢ τὴν ἐκ τῆς αἰδοῦς οἷον ἄμπωτιν τῶν χυμῶν ἀναφερόντων, μὴ προσεχεῖν τὸν νοῦν τῇ χροιά ...

(*San. Tu.* IV.4, 112,6-13 Koch, VI.253-254 Kühn)

Here the context is the possibility of using the phenomena externally visible in a person, in particular colour, as indicators of the underlying disposition; but certain cases where the humours 'retreat into the depth' of the body will confuse this picture.

A picture is emerging of the physiology of mental or emotional disturbances - or at least of a particular distinct set them - and of their relationship with heat in the body; and this picture is elaborated considerably elsewhere.

Before proceeding to that elaboration, it is perhaps worth mentioning another question, albeit only to clarify that I am leaving it to one side in the present enquiry, namely that of the origins or intellectual forebears of Galen's thought in this area. There are, it seems, parallels for some of his statements about

the motion of blood within the body in relation to emotions, in the Aristotelian tradition.¹¹ This point -related as it is to the diverse origins of different elements of Galen's intellectual framework - is, indeed, worth bearing in mind later on in our discussion, when we come to the question of the co-existence of different 'models' of the soul in Galen. For the moment, however, the specifics of that question of origins must be left for further research.

The fullest account, overlapping with those we have already seen but adding considerable detail, appears in book II of *De causis symptomatum*. The passage is of central relevance to our argument here; in view of its length, it is presented below as an appendix, while a discussion which aims to highlight the essential points follows here.

At the point where this passage begins, Galen has been discussing violent trembling, or 'rigor', and the way in which this is related to humoral phenomena, and in particular to heating and cooling, in different parts of the body. He introduces what follows as a continuation of the account of pathology in this particular area, and of its causes.

To summarize: fear draws the *pneuma*, or breath, and the blood inward, causing cooling on the surface, while rage involves an opposite, outward motion. Anxiety (*agōnia*) involves a mixture of both these motions. Shame (*aidōs*) involves first an inward motion, then a sudden return to the surface. Distress (*lupē*) has the same physical manifestations as fear, but on a smaller scale. The above physiological processes which accompany fear can in extreme cases be fatal; and joy shares some of the same physical characteristics as fear, involving a dissipation of tension, and so can in extreme cases lead to sudden death in a similar way. Pain presents some of the same symptoms as very great fear.

We have, then, a remarkably detailed account of a number of distinct emotive experiences - fear, rage, anxiety, shame, distress, joy, pain: each has precise physical correlates, understood in terms of very specific phenomena of heat in the body.¹²

¹¹ One may, for example, point to somewhat similar accounts of shame and fear in the Aristotelian *Problems*: the physical correlates of *agōnia*, *phobos* and *thumos* are distinguished in terms of heat and its location and/or motion at II.6, 869a2-8; II.31, 869b7-9; XI.32, 902b37-903a4 (mentioning also *aischunē*) and XI.53, 905a6-13 (distinguishing *aidōs/agōnia* and *phobos*); *thumos* and *phobos* are contrasted in terms of upward or downward motion of the blood/heat at XXVII.3, 947b24-34, with which cf. XXXI.3, 957b9-14 and XXXII.8, 961a8-13 (contrasting the motions of heat in anger and shame).

This consideration also raises a broader point. In assessing Galen's relationship with the Aristotelian tradition, it is not just his contact with and reaction to the earliest generation of texts that must be considered. Authors closer to Galen's own time, e.g. Philo of Alexandria (and that location, with its medical connections, might possibly be of particular significance for Galen), may shed light on the way in which the tradition has been interpreted between Aristotle (and indeed Plato) and Galen. I am grateful to the anonymous referee for pointing to the possible significance of Philo; future research on Philo and others in the Platonic-Aristotelian tradition may indeed shed further light on Galen's intellectual formation (cf. on this point also Singer 2014).

¹² These English translations can of course only represent approximations to the values of these terms in the Greek socio-linguistic tradition; but it is hoped that they are at least not grossly misleading. The concept of *aidōs* is, as is well known, linked to a complex of Graeco-

From this text it is even clearer that Galen is keen to demonstrate his ability to analyse the soul affections in physical terms: that he is, in some sense, asserting the priority of the physical account. But in what sense, exactly?

We considered one possibility already, and found it improbable: that Galen actually regards the experiential or intentional content of a mental state as a dispensable aspect of the description, i.e. that we might be experiencing anger without the intentional content which a traditional philosophical description has attributed to it: the desire for revenge.

It would in principle be possible to explore other possibilities, too, for example that Galen accepts the validity of an experiential or mental account of rage, but believes that this should take a simpler form, characterising rather a 'raw' emotional state, without the specific intentional content that the traditional philosophical definition entails. In other words, rage has a legitimate experiential as well as physical definition; but the specific one, 'appetite for revenge', is not it. (And in that case, then presumably similar arguments might apply in the case of shame, fear, etc.) Now, as I have already argued, I do not believe that this is in fact the sense of his characterization of 'appetite for revenge' as a mere *sumbebēkos*. But certainly, if that were the thrust of his approach, he does not give us enough to go on to develop it meaningfully.

What seems to be the case, indeed, is that Galen does *not* reject traditional, experiential accounts of mental states like *agōnia*, *thumos*, *phobos*. He mentions a particular intentional account of rage, as we have seen; and, in the passage just considered, one of shame, which may also be traditional ('the soul-capacity cannot endure the society of a much greater person').¹³ But Galen is not problematizing this: it does not seem that he thinks that there will be any difficulty knowing when something is a case of fear, shame, anxiety, and so on.

Another possibility, as already suggested above, is that he asserts the importance of the physical correlates because he thinks the physical phenomena are *causally* prior. In this case, we would might [???]- if again we are looking for equivalents in the modern philosophy of mind - of an analysis in terms of epiphenomenalism.

But again, this does not seem to be what Galen is saying. The causes of an occurrence of shame, fear, anxiety mentioned by Galen are the obvious, everyday ones - the presence of a particular person, a threatening event. These are not presented to us as the results of a physical process of causation. One can, to be sure, look at the underlying causes of one person's

Roman societal notions to do with appropriate publicly viewed behaviour, and how one is scrutinized and valued. Terms which may seem more problematic in translation are *lupē*, which apart from a more or less technical sense in the philosophical tradition may also refer more straightforwardly to 'pain'. (On both these features of *lupē* see further below; but the straightforward sense of 'pain' is certainly not the central one in present contexts, this being covered rather by *ponos* or *algēma*.) 'Anxiety' seems the best translation of *agōnia*, with the proviso that a sense associated with public performance or competition is often - though not always - to the fore.

¹³ μη φερούσης ἀνθρώπου πολὺ κρείττονος ὁμίλιαν, *Caus. Symp.* II.5, VII.192 Kühn; for this and the phrases cited in the following paragraphs, see Appendix 1 below.

being more fearful, angry, or inclined to shame than another, and some of these might be understood as physical causes, along the lines further discussed for example in *QAM*. But such a causal framework is not explored at this point, in his discussion of disease aetiology and the relationship of symptoms to their underlying causes. The closest he here gets to consideration of such predisposing causes are expressions like the 'inborn softness and timidity' that lead to shame, or the 'naturally weak little soul' or 'small-souled' nature that lead to the risk of sudden death from fear and joy respectively: terms which are vague in relation to any possible physical account of those natures.

Emotional disturbance as cause of physical disease

What is striking, in fact, is the extent to which the set of psychological affections that we have seen above recurs in Galen as *causes* of physical events, rather than as effects of them. Specifically, they are mentioned frequently in accounts of the aetiology of diseases.

Examples of this causative role - both a more generic role in changing bodily mixture, especially by heating or drying, and a more specific one in the genesis of fever - proliferate over the Galenic corpus. Typically, they occur in lists which include also more obviously physical causes. There are quite a lot of relevant texts here; again, the most relevant passages are quoted *in extenso* in an Appendix 2, and summarized below according to the subheads of that appendix. (There is, however, considerable overlap between the topics here, and the effects described can be understood within a single framework, according to the effects of hot, cold, wet and dry.)

A variety of descriptions of the physical effects of emotional disturbance

In Appendix 2 (A), a text from *De sanitate tuenda*, cases of rage, worry and distress (*thumoi*, *phrontides*, *lupai*) appear, alongside baths, in a fairly general mention of things that affect mixture.

Appendix 2 (B), also from *De sanitate tuenda*, connects the excesses of motions connected with certain emotional responses ('desires, arguments and rages') with excess bile, and their deficiency with excess phlegm, and also mentions some further medical consequences of these, as well as lifestyle prescriptions to avoid them.

The texts at Appendix 2 (C) and (D) give more pathological detail about emotional disturbances as provokers of disease, the former listing worry and rage amongst other drying causes, the latter offering a similar list - worry, rage and distress - amongst the causes of excess yellow bile. And we have rage as a cause of heating, in particular of the blood, at (E). Excess heat, in Galen's pathology, can lead to fever. It is here, surely, that we have the medical crux of the matter. Fever, a central disease category in Galenic medicine, represents the more serious end of the spectrum of these emotion-related outcomes; and this is borne out, too, by the frequency with which this

connection is made in Galen's medical works. Appendix 2 (F) gives a selection of texts from among the many instances where this phenomenon is described. Rage, anger, distress and worry are amongst causes that can contribute to the inception of fever.

These texts, then, from Galen's medical works - works concerned with diseases, their classification, aetiology and diagnosis - describe the physical consequences of a range of emotional disturbances. We see that the particular emotional disturbances under discussion are intimately related to changes in, and particular manifestations of, heat, and so also to a set of related concepts: *pneuma* or breath, the heart, blood, drying, yellow bile and, potentially and most seriously, fever.

Cases where emotional disturbance has had fatal consequences

There are other texts which give an even stronger statement of the potentially dramatic effects of emotional disturbances, but without the same level of scientific explanation. These belong to a category which we might call either 'case-history' or 'anecdote'.

One of the main contexts for these is Galen's commentary on the Hippocratic *Epidemics*, book VI. Galen is commenting on an aphoristic sentence¹⁴ which contains the word *gnōmē*, which might here, at least in Galen's interpretation of it, be taken to mean something like 'mental state'. He devotes three long pages, pp. 485-7 of the *CMG* edition of Wenkebach and Pfaff, to this single word. So, he says - and I paraphrase the German translation here of a text that is only extant in Arabic:

'Those who get angry at anything often fall because of this into sickness, which it is difficult to save them from. Many die not because of the bad state of their illness but because of the bad state of their soul and worry. So, I know a large number of people who have been overcome by fear of death, first made ill by it and then died of it. Sometimes a dream was the initial cause, sometimes a perceived sign.'

(*Hipp. Epid. VI*, vi, 485 Wenkebach-Pfaff)

Specifically, there is the man from Mysia who worked as an augur, and saw a sign predicting his own death; he became distressed, yellow in colour, sleepless, worried; then started to have fevers, became confused in his mind; and died after two months (*ibid.*, p. 486). Another became distressed, then feverish, sleepless and eventually deranged after a loss of money, also with a fatal result (*ibid.*, p. 486). And then there was the literary man who lost his books in the same fire where Galen lost his; here again distress leads to sleeplessness, and then fever, and eventually death (*ibid.*, p. 486). This last

¹⁴ Ἔθος, δὲ, ἐξ οἴων ὑγιαίνομεν, διαίτησι, σκέπησι, πόνοισιν, ὕπνοισιν, ἀφροδισίοισι, γνῶμη (V.352,8-9 Littré).

account parallels that now found at *De indolentia* 7, which probably, indeed, refers to the same individual.¹⁵

Though the detail is less physiologically specific in these anecdotes than in the texts which we have previously considered, the accounts seem in general consistent with what is said about fevers in those. In most of these brief 'case-histories', fever is mentioned; some - such as the fearful account of the man whose fatal illness was caused by the inadvertent passing of wind in a public place - have 'wasting-away' without explicit mention of fever; but we can perhaps take it that this is the causal process implied.

In all the above cases, then - both the more physiologically precise and the more anecdotal accounts - we have emotional disturbances seen as causes of medical illness, ranging from a slightly dried-out or overheated condition, through fever, to death.

The significance of the mental here, then, is that it may have quite specific, and dangerous, physical consequences. A relevant summation of the phenomena that we have seen considering seems to be provided by another remark from *De sanitate tuenda*:

'... one should not think that it is only the business of the philosopher to shape the character of the soul. Rather, it is his business to do it because of something greater, that is the health of the soul itself, while it is the doctor's business to do it so that the body does not readily fall victim to sickness.'

... μὴ νομίζεῖν, ὡς φιλοσόφῳ μόνῳ προσήκει πλάττειν ἦθος ψυχῆς · ἐκείνῳ μὲν γὰρ δι' ἕτερον τι μείζον τὴν τῆς ψυχῆς αὐτῆς ὑγείαν, ἰατρῷ δὲ ὑπὲρ τοῦ μὴ ῥαδίως εἰς νόσους ὑπομεταφέρεσθαι τὸ σῶμα. (*San. Tu.* I.8, 19,28-30 Koch, VI.40 Kühn)

The pulse context and the focus on diagnosis

So, much of Galen's interest in a certain kind of mental disturbance is medical; and this helps explain his interest in the physical correlates. It is important to know precisely what is going on physically in a particular mental state, because this is likely to have medical implications. The concern is not, here, with the control of anger, fear or anxiety considered in their own right: there is such a concern, and it is addressed in *Aff. Pecc. Dig.*; but that belongs as it were to a separate discourse. There, in an ethical treatise, ethical consequences, and particular ethical practices to correct the situation, are paramount, but the physical correlates and medical consequences are scarcely considered; in the medical texts which we have been considering, the reverse holds.

¹⁵ 4,6-8 Boudon-Millot and Jouanna: the person in question 'wasted away and died of depression' (ἀπὸ δυσθυμίας καὶ λύπης διεφθάρη συντακεῖς, Nutton's translation); on the probable identity of the two, and possible forms of the name, see Nutton, in Singer (2013), 79, n. 15, and cf. Boudon-Millot and Jouanna *ad loc.*

But a further corollary of this is that it may be important to *diagnose* from a physical state what has been going on mentally, for precisely the same reason.

In this context, the close relationship of the pulse with the physical phenomena mentioned is of central importance. We have seen this to some extent in the texts already cited. It is, precisely, the condition of the heart, the innate heat and the blood that determine the pulse; the pulse thus gives us pretty much direct access to those emotional states which, as we have seen, are intricately connected with them.

The passage already mentioned from *De crisibus*, Appendix 2 (F) (v), for example, which gives an account of the origin of a number of different kinds of fever, continues with an account of the effect that the diverse phenomena will have on the pulse:

'I shall start ... from the soul-affections ... worry, fear, rage and distress. If these still remain when the examination takes place, you should try to make your diagnosis especially on the basis of the pulse ... But if they have ceased, but the disposition remains, you will find, even in the pulse, an unclear indicator of the affections that caused the fever, but the rest will be sufficient.'

ἄρξομαι ... ἀπὸ τῶν ψυχικῶν παθῶν ... φροντίδος καὶ φόβου καὶ θυμοῦ καὶ λύπης. εἰ μὲν δὴ μενόντων ἔτι τῶν τῆς ψυχῆς παθῶν ἢ ἐπίσκεψις γένοιτο, διὰ τῶν σφυγμῶν μάλιστα πειρᾶσθαι διαγινώσκειν ... εἰ δ' αὐτὰ μὲν εἴη πεπταυμένα, μένοι δ' ἢ διάθεσις, ἀμυδρὸν μὲν τι κἂν τοῖς σφυγμοῖς εὐρήσεις γνῶρισμα τῶν ποιήσαντων τὸν πυρετὸν παθῶν, ἀποχρήση δὲ σοι καὶ χωρὶς τῶν σφυγμῶν τὰ λοιπὰ πάντα. (*De crisibus* II.13, IX.696-7 Kühn)

Specific relationships of particular affections of the soul to particular kinds of pulse - and the possibility of discerning the former from the latter - are given in the pulse treatises.

'In rage the pulse is big, vigorous, fast and frequent ... In pleasure: big, infrequent, slow, but not unusual in vigour ... In distress: small, unclear, slow, infrequent ... In fear which is sudden and violent: quick, agitated, disordered, uneven; in fear that has been there for a while: like that in distress. ... Pain, when it alters the pulse ... '

θυμοῦ μὲν ὑψηλός ἐστιν ὁ σφυγμὸς καὶ μέγας καὶ σφόδρος καὶ ταχύς καὶ πυκνός. ... ἡδονῆς δὲ μέγας καὶ ἀραιὸς καὶ βραδύς, οὐ μὴν σφοδρότητι γε διάφορος. ... λύπης δὲ μικρὸς καὶ ἀμυδρὸς καὶ βραδύς καὶ ἀραιός. ... φόβου δὲ τοῦ μὲν ὑπογυίου καὶ σφοδροῦ ταχύς καὶ κλονώδης καὶ ἄτακτος καὶ ἀνώμαλος, τοῦ δὲ ἤδη κεχροτισμένου οἷος ὁ τῆς λύπης. ... ἄλγημα δὲ τὸ τρέπον τοῦς σφυγμούς ...

(*De causis pulsuum* IV.2-6, IX.157-61 Kühn)

The passage has been shortened in the interests of manageability; but one should note that most of the ellipses here correspond to quite detailed accounts of the physical processes that lead to these kinds of pulse in these cases.

Soul affections are among the things which can be distinguished by that most useful diagnostic tool, the pulse. And again, as we have seen in other contexts, these emotional disturbances are placed alongside physical ones as causes of the observed phenomenon.

'But I find that high pulses arise in rage and before crises ... '

ἀλλ' ἐγὼ τοὺς μὲν ὑψηλοὺς ἔν τε τοῖς θυμοῖς καὶ πρὸ τῶν κρίσεων εὐρίσκω γινομένους ...

(*De causis pulsuum* II.13, IX.93 Kühn)

This quotation is followed, on pp. 96-7, by an account of how and why the pulse is high in those in rage, even if their condition is faultless.

As Galen emphasizes in a number of contexts, it is essential to successful diagnosis to have a clear conception of the natural state of the patient, against which to measure any departures from the norm. Such is the context of the next passage, from *De praesagitione ex pulsibus*: Galen spends some time discussing how one distinguishes acquired or temporary changes to the state of the body.

'That which arises from rage, too, occurs with vigour, and should not be impossible for an intelligent person to spot, if he observes the eyes and the whole face too. But in one who wishes to restrain and conceal his rage, the pulse becomes uneven; and it is even more uneven in those experiencing anxiety and shame.'

καὶ μὲν γὰρ καὶ ἡ ἀπὸ τοῦ θυμοῦ μετὰ σφοδρότητος γίνεται, καὶ οὐδ' ἂν ἄλλως λάθοι τὸν γε συνετὸν εἰς τε τοὺς ὀφθαλμοὺς καὶ τὸ σύμπαν πρόσωπον ἀποβλέποντα. κατέχειν μέντοι καὶ κρύπτειν βουλομένῳ τὸν θυμὸν ἀνώμαλος ὁ σφυγμὸς γίνεται καὶ μᾶλλον ἀνώμαλός ἐστιν τοῖς ἀγωνιῶσιν τε καὶ αἰδομένοις.

(*De praesagitione ex pulsibus* I.1, IX.214-15 Kühn)

We notice here how rage is incorporated within a system of physical causes: there follows immediately after these lines an account of the effect on the pulse of semi-digested foods.

The pulse in patients who are concealing something

The reference here to *concealed* rage reminds us of a particular dimension of Galenic diagnosis: diagnostic tools can be used to get at information which the patient wishes to hide. It can, for example, be important to know whether a patient is self-medicating in the doctor's absence. The passage just quoted in fact proceeds to give just such an account. The question, in Galenic terms, is whether the increase in a patient's pulse was due to an access (*episēmasia*) of illness, a paroxysm, or whether it was due to his having taken a heating drug when Galen was not looking. Here, of course, precise technical knowledge - both in terms of the discernment of the pulse and in terms of the

expected course of a disease in such cases - must be used in conjunction with external considerations, in particular the habits and character of the patient: his *ethos* and *ēthos*.

We are put in mind of the anecdotes (or 'case histories') from Galen's short, self-publicizing - as opposed to long and technical - work on such techniques: *Prognosis*.

There, the well-known account of his encounter with the wife of Justus is precisely relevant to the specific diagnostic claims that we have been considering.¹⁶ Galen is called to the bedside of a woman whose known symptoms are sleeplessness and disturbed rest. He finds (presumably after taking a pulse, though this is not stated) that she has no fever, and that she is reluctant to answer any questions about the cause of her insomnia. On the basis of this first visit, he is left with two possibilities: that she has a melancholic depression or that she is distressed about something that she does not want to admit (ἡ μελαγχολικῶς δυσθυμεῖν ἢ τι λυπουμένην οὐκ ἐθέλειν ὁμολογεῖν, 102,1-2 Nutton, XIV.631 Kühn).

It is, of course, the pulse that will enable him to complete the diagnosis conclusively (even if there is, admittedly, considerable external input, too - not just in the woman's reluctance to speak with or admit him, but also in a maid's confirmation that this is indeed a serious case of *λυπῆ*, 102,9 Nutton, XIV.632 Kühn). At a chance mention of the name of the dancer Pylades, Galen is able to observe the pulse, and finds it to have that uneven quality associated with disturbance of the soul, and anxiety in particular, that we have seen discussed (τὸν σφυγμὸν εὖρον ἀνώμαλον ... ὅστις δηλοῖ τὴν ψυχὴν τεθορυβῆσθαι · ὁ αὐτὸς οὖν καὶ τοῖς ἀγωνιῶσι ... συμβαίνει, 102,16-18 Nutton, XIV.632-3 Kühn).

Of course, as Galen pretty much admits, intelligent guess-work, alongside the introduction of external information, were necessary both here and in the subsequent examples he gives of the discovery of concealed causes: a steward who is worried at the prospect of having to render an account when he knows money is missing (102,29-104,8 Nutton, XIV.633-4 Kühn) and a boy who is surreptitiously eating food and thus sabotaging his recovery (104-110 Nutton, XIV.635-641 Kühn). But they do further reinforce the claim that some kind of diagnostic techniques, in particular that of the pulse, can be used to discern - or at least to help guess at - such hidden causes.

We have seen, then, a variety of contexts emphasizing the diagnostic dimension of the physical differences attendant on mental disturbance. It is this diagnostic dimension, I think, that gives us our best approximation to a clear answer to our original question. It would seem that such diagnostic possibilities lie at the heart of Galen's insistence on particular physical symptoms as *the essence* of the emotional disturbance. The emotional

¹⁶ The account is at *Praen.* 6, 100,15-102,27 Nutton, XIV.631-3 K. A similar diagnostic success is attributed to Erasistratus, and mentioned both in this text (ch. 6, 100,7-14 Nutton, XIV.630-1 K.) and at *Hipp. Epid.* II, 208 Wenkebach-Pfaff; but Galen claims that the specific intellectual procedure he followed with the wife of Justus was his own.

disturbance that a patient undergoes is a matter of fact, and it is a fact to which the doctor, especially through the diagnostic tool of the pulse, has access. The doctor's knowledge of the fact is something that may then be of concrete significance for therapy.

Models of the soul?

We have looked at a number of emotional disturbances - *pathē* of the soul - which are discussed in detail in a variety of physiological and medical contexts, in a wide range of Galenic works. But here a problem arises. As we have already suggested in passing, there seems to be a striking lack of overlap between the kind of discussion of emotion that has been our main focus above - discussion in terms of heat, blood, *pneuma*, the heart, drying, yellow bile, fever - and those that appear in Galen's works purporting to give a dedicated discussion of the soul. There is, indeed, a work devoted specifically to 'affections of the soul' (*Aff. Pecc. Dig.*), and the terms of its discussion are quite different.

What is perhaps most remarkable is that the discussions of mental or emotional states which we have been considering are conducted almost entirely without mention of the rational capacity, or the brain; and, more broadly, without reference to interaction between the parts of the soul. We seem to have, (1) on the one hand, a form of discussion of *pathos* which focuses on the nexus of concepts, *thumos* - heat - blood - the heart, and which involves almost no mention of the function of the brain, or, more generally of internal interaction within the Platonic tripartite soul; (2) on the other, a form of discussion of *pathos* which focuses on the *thumoeidic* (heart-related) part of the soul mainly in terms of its relationship with the other parts, rational and desiderative, and which makes almost no mention of physical correlates. In this latter context, what are most prominent are the capacity of the *thumoeidic* to be educated by reason; its role in allying with reason against desire; and, more generally, the fundamental role of early training and education. Purely as a shorthand, let me for the moment refer to these two forms of discussion respectively as the medical and the philosophical discourse of the *pathē*.

That apparent rift led Paola Manuli, in her ground-breaking and thought-provoking work now nearly thirty years ago,¹⁷ to talk of the interference between different models in Galen. Her view was that *thumos* and other blood-related concepts belonged ultimately to a different model of explanation, with origins both in traditional Greek thought and in the medical tradition, and not readily or not successfully incorporated within the Platonic - and brain-centred - tripartite model which Galen adopts elsewhere.

Such analysis is complex and problematic - not least so because of the compartmentalized, or, perhaps worse, partially compartmentalized, nature of Galenic discussions: he himself does not give us the assistance we might like

¹⁷ See especially Manuli (1988); relevant also are Manuli (1986) and (1993).

in understanding how or to what extent his discussions in different contexts can be seen as belonging within a single model of explanation.

Paola Manuli's approach is still, I think, worthy of consideration. It is also true, both that more work has been done in this area since 1988, and that more work needs to be done on a range of texts, in order to give a clearer answer to the problem that she raised. But let us say a little more about that problem, and about possible approaches to it.

If we consider the specific emotional disturbances that have been our focus above, worry (*phrontis*) and anxiety (*agōnia*) make very frequent appearances in medical contexts such as those that we have been considering; but they hardly appear at all in *Aff. Pecc. Dig.* There is no psychotherapy for anxiety, or worry - items which we might have expected to be fairly central to a psychotherapy. Other terms from our medical discourse, such as fear and distress, do, certainly, appear in the ethical works, *Aff. Pecc. Dig.*, *De indolentia* and (as far as one can tell through Arabic) *De moribus*, but without any stress on the importance of their physical correlates.

Galen could, of course, say that getting rid of excessive worry and anxiety - and indeed instances of fear too - will be the natural result of training the *thumoeidic* soul in the right way, and that this is precisely the focus of *Aff. Pecc. Dig.* and *De moribus*. That, in a sense, these are works addressed to giving the soul the right sort of training to avoid such disturbances ever arising - and so to avoid future medical consequences. But certainly, there are specific everyday psychical affections, *phrontis* and *agōnia* - ones which, we have seen, can have severe physical consequences - receive no *direct* psychotherapeutic prescriptions.

Nor is this, as far as I can see, because Galen thinks that they can be addressed physically. The fact, elaborated above, that he insists on their physical correlates does not mean that they have a physical cure; rather, it means that one must be aware of them as potential causes of physical disease.

If we turn to *thumos*, it is surely true that it is talked of in very different ways in the medical and philosophical discourses. There are psychotherapeutic prescriptions for it in the philosophical discourse, but not in the medical; conversely, in the philosophical discourse there is no discussion of its possible medical implications. More specifically, the function of the *thumoeidic* soul as allied with reason against desire seems not to be significantly reflected in the medical discourse. Indeed, it could be said, more generally, that the desiderative soul and its affections do not find physical correlates in Galen's medical discourse in anything like the same way that the *thumoeidic*, heart-related, one does.

Can one characterize these differences as just a function of Galen's different focus in the different contexts? Or should one say, indeed, that in some sense different models are in play?

As we have already suggested, evidence for the latter proposition might be seen in the particular conception of *thumos* in its specific relationship with

certain physical items - heart, blood, *pneuma* and innate heat - in the medical, but not the philosophical, discourse. (A possible counter to this perception would, perhaps, be to say that the works in the philosophical discourse simply do not need that level of physiological detail, and omit it as irrelevant.)

The situation is, indeed, still more complex than has so far been allowed. For there is another set of 'soul affections' discussed in the medical discourse, in addition to the heart- or heat-related ones considered above. I am thinking here of a range of mental disturbances which are, again, connected with the aetiology of hot and cold, but where the most important bodily location within that aetiology is that of the the brain. In this case, then, as in the philosophical discourse, the rational capacity, or brain, *is* of central importance; but the description and management of these complaints, again, seem to have very little to do with the discourse on the health and rational training of the soul given in *Aff. Pecc. Dig.* and in *De moribus*.

What is at issue here is the category of more serious mental aberrations, as distinct from the more everyday ones which we have looked at above. The discussion of this category is beyond my scope here, and indeed they would deserve a dedicated study in their own right:¹⁸ they include *phrenitis*, *paraphrosunē*, *melancholia* - serious disturbances of the rational or hegemonic capacity. The most detailed discussions of this category of 'brain malfunction' occur in *Symp. Diff.* and in *Loc. Aff.* As already stated, they depend in particular on states of hot and cold, especially as they affect the brain. Here, too, we may point out that their analysis does not involve any appeal to the notion of the tripartite soul (as of central importance in the philosophically-conceived soul pathology): what are being described are problems with a single part, the brain or the rational.

Discussion in terms of heat, and of humours, seems absent from the philosophical works, just as the full tripartite Platonic scheme of explanation of soul affections seems absent from the works on pathology and the clinical context that we have been considering.

On the other hand, Galen might, if pressed, argue that at least some of the differences in analysis are due to the different context - that, in fact, the discussions are in a continuum.

Aff. Pecc. Dig. and *De moribus*, he could say, are, precisely, telling you how to deal with *thumos* and its relatives in their own right, and focussing in particular on the importance of early habituation and education in this context. The works on diseases and diagnosis are telling you about what happens if they are left untreated, or if there is poor early education, or of they are allowed to have physical consequences.

He could, further, argue that at least distress, *lupē*, gets a specific treatment, with cognitive-therapy-style interventions, in *De indolentia* - a text which indeed, as we have seen, discusses not only that 'therapy of the word' but also, anecdotally, the terrible physical dangers of *lupē* not so treated. (This particular affection, moreover, has a prominence in *Aff. Pecc. Dig.* too, in a

¹⁸ But see now Devinant (forthcoming); Singer (forthcoming).

way which seems in a sense to take Galen outside the intellectual framework of Platonic tripartition.) He might further, as I've already suggested, say that other specific disturbances - shame, anxiety, worry and fear generally - come under the general heading of thumoeidic passions in the Platonic sense, and so will be controlled by the Platonically correct discipline of that part.

And, what is more, he could point to at least one passage where he does indeed seem to give an account of the physical correlate of the interaction of reason and spirit as discussed in the works of moral psychology: see Appendix 1, where a part of the description of motions of the blood in *De causis symptomatum* (pp. 192-3) seems to do just that. (It would still have to be admitted, in this particular passage, that the *three* Platonic parts of the soul are not clearly identified, the distinction being between *logismos* and *to pathētikon*. This lack, indeed, seems to correspond to an absence of appearance of the Platonic *epithumētikon* in the medical-pathological contexts. The *thumoeides* seems to lend itself to detailed description within Galen's heart- and heat-based physiological system; desire, with its theoretical correlate of liver, much less so.)

To return to the original question here, and to Paola Manuli's 'interference between different models', I still feel that her intuition is sound, though it perhaps needs to be restated in qualified form. That there are different (though overlapping) vocabularies, due in part to different intellectual traditions (Hippocratic, later medical, Platonic) seems clear; clear, too, that - to put it at its weakest - terms are deployed differently, creating different conceptual schemes and raising different kinds of problems and solutions, in different works.

It also seems clear that Galen would probably have had some reply to make, if challenged, as to how his different works do belong within a single framework of explanation.

Treatment - and physical basis - of mental disturbances

We mentioned a little earlier that Galen does not suggest specific physical treatment for *phrontis*, *agōnia*, etc.; and that they do not feature - and least not clearly and explicitly - in his philosophical 'cognitive therapy' approach. What, then, if anything, does he suggest doing about them (apart, perhaps, from the broader approach in terms of educating the spirited part of the soul)?

Reciprocal soul-body relations

Before I discuss the point in detail, let me digress here briefly to talk about the direction of causation in Galen more generally - a digression which will to some extent function as a summary of some of the issues raised above. We have seen, amply attested, cases of mental disturbances having physical effects; and, as we know, in particular from *Quod animi mores* and *PHP*, physical mixtures and constitutions, and the central organs of the body, are of fundamental importance for the functioning of the soul. I do not think, in spite

of the well-known claims of *QAM* in their stronger statement, that a completely straightforward or univocal picture emerges from Galen's writing, on the causal relationship between physical and mental states.¹⁹ Of relevance here are passages, in *QAM* and elsewhere, which assert the reciprocal relationship, in particular the possibility of virtuous circles coming about in soul-body relations.

'... it is on the mixtures that depend, in the rational, different degrees of shrewdness and foolishness <and, in the non-rational part of the soul, well-balanced or ill-balanced motions, also in different degrees>.²⁰ And the mixtures themselves are consequent on the original formation and the well-humoured daily regimes, and these things mutually increase each other. So, to be sure, people who become sharp-spirited²¹ because of the hot mixture then fire up their innate heat by their sharpness of spirit; and those who are well-balanced in their mixtures, having well-balanced motions of the soul, are assisted towards good humour.'

ταῖς κράσεσι δ' ἔπεται κατὰ μὲν τὸ λογιστικὸν ἀγχίνοιά τε καὶ μωρία κατὰ τὸ μάλλον τε καὶ ἥττον <κατὰ δὲ τὸ ἄλογον κινήσεις σύμμετροι ἢ ἄμετροι, καὶ ἐνταῦθα κατὰ τὸ μάλλον τε καὶ ἥττον>· αἱ κράσεις δ' αὐταὶ τῆ τε πρώτη γενέσει καὶ ταῖς εὐχύμοις διαίταις ἀκολουθοῦσιν, ὥστε συναυξάνειν ἄλληλα ταῦτα. διὰ γοῦν τὴν θερμὴν κρᾶσιν οἱ ὀξύθυμοι γιγνόμενοι ταύταις πάλιν ταῖς ὀξύθυμίαις ἐκπυροῦσι τὴν ἔμφυτον θερμασίαν· ἔμπαλιν δ' οἱ σύμμετροι ταῖς κράσεσι συμμέτρους τὰς τῆς ψυχῆς κινήσεις ἔχοντες εἰς εὐχυμίαν ὠφελοῦνται. (*QAM* 11,78-9 Müller, V.821 Kühn)

We might digress at this point to attempt a summary on the question raised earlier in the paper, on the analysis of Galen's views in terms of the modern philosophy of mind. It seems to me (and I argue more fully elsewhere²²) that Galen does *not* commit himself either to physicalism or to epiphenomenalism, in spite of remarks which seem to commit him to some version or relative of mind-brain identity in *QAM*: the argument that appears to do this has to be understood as posed in a particular argumentative context, rather than representing Galen's final position.

Rather, passages such as that just quoted, taken in conjunction with some of those already discussed, especially from Appendix 2 below, which highlight the causative role of emotional disturbance in physical disease, suggest a picture which would more accurately be characterized as interactionist dualism. Certainly, passages such as that from *De sanitate tuenda* with which we started, as well as the fuller account from *De causis symptomatum* (Appendix 1) emphasize the regularity with which particular types of 'mental event' can be correlated with particular physical ones, and so suggest something like 'type identity'. In fact, however, Galen is not ultimately committed to an identity theory at all. (How could he be, when he explicitly

¹⁹ On this point, especially in relation to the interpretation of *QAM*, see now Singer (2013), especially the introduction to *QAM* in that volume.

²⁰ On the text here, see Singer (2013) ad loc.

²¹ Or 'quick to anger': the word, in relation to Galen's other terminology for anger, is discussed by von Staden (2011).

²² See Singer (2013), esp. introduction to *QAM*.

and consistently throughout his work refuses to commit himself on the specific question of the substance of the soul?²³)

Important to bear in mind, here, is that Galen is not, in fact, a philosopher of mind - let alone one with access to twentieth- or twenty-first-century philosophical terminology. Tempting though it is to venture upon an analysis of Galen's 'philosophy of mind', it is essential to remember that his aim - albeit he takes on and engages with the second-century philosophical debate at some level - is to present an intellectual account that makes sense of the complex medical and experiential phenomena in pragmatic terms, rather than one that aims primarily at philosophical definition.²⁴

I would add, though without space to justify the proposition, that this nuanced, pragmatic, enquiring - if, admittedly, not always easy-to-pin-down - approach that emerges from the texts which we have been considering seems to me in fact one of the great strengths and attractions of Galen's writing.

But I return to the question I posed a little earlier: how to cure anxiety and worry, to the extent that they are not dealt with in the works of moral psychology?

As has doubtless emerged by now, there is no one work of Galen's, nor even a range of works, devoted specifically to medical psychopathology, and his answers to questions of causation, pathology, diagnosis and treatment in this area have to be gleaned from discussions, comments and remarks scattered across a wide range of works.

Our best approximation to Galen's theory of the treatment of the kinds of psychic disturbance that we have been considering seems to be found in a few isolated remarks, in relation to specific case histories (case histories which in some cases have been doubted to be actual ones from his own experience), especially in his *Commentaries on Hippocrates' Epidemics*.

As a set of guidelines for therapeutic practice, one might say that they do not amount to a great deal; it would, perhaps, conversely, be possible to put a positive gloss on this by saying that Galen adopts a commonsense, non-doctrinaire approach.

We have already come across some of these examples from the *Epidemics Commentaries*, in the context where we were considering the potentially fatal consequences of such mental states. What possibilities does Galen suggest for treating them before such dire consequences arise?

First of all, Galen does show an interest in *identifying* the underlying anxiety, or other problem: what the patient says or does can be used as a *tekmēron*,

²³ On the consistency of this position, and for a summary of the passages in which it is stated, see Donini (2008) and now Singer (2013). (It appears, for example, in the lengthy passage in Appendix 1 below.)

²⁴ On the Galen's attitude to philosophers, and to philosophy as a discipline, and on his problematic self-definition in relation to both, see now Singer (2014).

an evidence, of what is going on in the soul. Such a process is described in the Commentary on *Epidemics I*.²⁵

But what follows on from such identification? Well, as far as cases of someone being in love are concerned, the medical intervention seems to end with the revelation: what to do about it is, presumably, up to the parties involved, within the limitations given by their marital and social status, and so on. (Perhaps there was some therapeutic value, at least, in getting it out in the open.)

In some cases of anxieties which take the form of an *idée fixe*, Galen does discuss not just the identification of the anxiety but its removal.

'Therefore the doctor must make it business to know not just general tendencies of patient but things that affect his soul. For healing of a man whose cause of illness is in the soul can only be achieved through removal of the *idée fixe*, not through food and drink, baths, exercise and so on ...'

The insistence on removal of the *idée fixe*, presumably by some kind of cognitive therapy, as against any thought of dietetic approaches, is interesting indeed, in the broader context of Galen's work. He does not, systematically, tell one how to go about this.

He does, however, finally - and I fear these are the remarks most relevant to an answer to our question - give two anecdotal examples of how such an anxiety or *idée fixe* was removed by means of a trick played on the patient.

In the Commentary on *Epidemics II* (208 Wenkebach-Pfaff), a doctor heals a patient who thinks she has swallowed a snake. The doctor pretends to go along with the delusion and gives her an emetic, throws a snake into the vomit surreptitiously at the moment that she throws up; and she is cured. (The 'cure' is not presented by Galen as his own, but attributed to Chrysippus, the teacher of Erasistratus.)

The same passage also recounts another similar trick - attributed this time to Erasistratus himself. The physician has a consultation with a man who believes himself to have heard a dead man address him from a graveyard. Again pretending to subscribe to the reality of the patient's delusion, he responds: it was me I that addressed you from the graveyard. And I now refuse my help against your illness, just as you refused to come when I called to you on that occasion.

Both of the above tricks, we note, are attributed to doctors of a distantly previous generation. (Perhaps, while acknowledging the success of such an approach, Galen did not feel able to make such intellectual charlatany part of his repertory. Or perhaps, more seriously, the paucity of real examples is due to a paucity of real therapeutic experience of this kind on Galen's part.)

²⁵ See *Hipp. Epid. I*, III.1, 107 Wenkebach-Pfaff, XVIIA.213-14 Kühn ([sc. Hippocrates] εἰπῶν διανοήματα ... ἐδήλωσεν ... ἐκ τεκμηρίων εὕρισκόμενον πρᾶγμα. τεκμήριον δὲ ἐστὶν ὃ ἀποφθέγγονται τε καὶ πρᾶπτουσιν οἱ κάμνοντες, *ibid.* 107,24-26 Wenkebach-Pfaff, XVIIA.213 Kühn).

There is not much material, then, on specific psychotherapeutic techniques in the case of chronic delusions or derangements; but there is, certainly, the acknowledgement of a difficult and important realm which is not accessible to cure by diet or drug therapy.

Anti-Stoic or anti-philosophical polemic

I end with a rather more speculative and open-ended consideration. I raised at the beginning the question: whom does Galen have in his sights when he says rage is *not* defined as appetite for revenge? The cautious answer would be that it could be just about anyone in the philosophical tradition, since this was probably a pretty standard definition by late antiquity. There is some slight reason to associate what Galen says with the treatise by pseudo-Andronicus on *Affections* (now believed to be a Stoic text), because the precise term used by Galen for revenge, *antitimōrēsis*, is the same as that which occurs in that text's definition, and subtly different from Aristotle's *antilupēsis*. But one would not want to base too much on what was very probably a widespread, rather than a school-based, use of terminology.

But, more broadly, and of relevance to Galen's position in the intellectual market: there was a considerable discourse in moral psychology (largely but by no means exclusively Stoic) which was able to produce great subtlety in its discussion of individual psychic affections or *pathē*. The *Affections* of pseudo-Andronicus indeed, with its long list of individual items, exemplifies that discourse.

Galen is not interested in that complexity, and it is striking that in his own philosophical work on the *pathē* of the soul (*Aff. Pecc. Dig.* - and, as far as we can tell from what is a mutilated text, the same holds for *De moribus*), there is no great subtlety or sophistication in their description. (One may, for example, contrast the greater elaboration in this area that one finds in Plutarch, Epictetus or Marcus Aurelius²⁶.)

Galen seems uninterested in detailed description of emotions, considered in their own right, of the sort engaged in by some philosophers. Is his approach here in fact related to the phenomenon which we have been considering above, namely his insistence on physical correlates? In other words, is he only interested in soul affections that can - as suggested in the quotation with which we started - be analysed also in terms of what happens in the body? For this analysis, of course, Galen, unlike his intellectual rivals (especially, perhaps, those who happen to be Stoic philosophers) has all the intellectual tools. The simplicity of Galen's language of soul-affection - its extreme *povertà lessicale*, again, something that was already noted by Paola Manuli - is in stark contradistinction to the extreme classificatory subtlety of which he is capable in other fields, for example the description of the pulse, the branches of health, diseases.

²⁶ For further discussion and exemplification of this point, see Singer (2013), 211.

In that realm, he seems to be saying, you can divide as finely as you like; in the realm of physical causation, disease and diagnosis - the realm that really matters - I have the finer distinctions.

APPENDIX 1: DE CAUSIS SYMPTOMATUM ON EMOTIONAL DISTURBANCES

'Indeed, the drive, both inwards and outwards, of the innate heat is amongst the primary and (as one might call them) most *hegemonic* motions; it arises upon many soul affections; and of course along with this motion *pneuma* and blood, too, are sometimes borne and dragged in towards the source, sometimes pushed outwards and poured. Well, to make a declaration on the substance of the soul itself might perhaps be bold, even in some other work; in the present one it is not only bold but also superfluous. Whatever it actually is, one of two things seems to be the case: that it uses *pneuma*, blood and the heat that is in both of them as the primary instruments for all its activities, or that it subsists in those things. And it is possible to observe its motions manifestly in many other affections, but especially those of the soul. Fear and rage, to begin with: the former draws and drags in both the *pneuma* and the blood towards the [VII.192 Kühn] source, with a simultaneous cooling of the surface parts; the latter pushes outwards, pours and heats. But what is known as anxiety, being a composite of the two, is uneven in its motions. And, certainly, the pulses of the arteries and of the heart are smallest and slackest in those experiencing fear, largest and most violent in those experiencing rage and uneven in those experiencing anxiety. In shame, there occurs first a motion inward of the soul-capacity, but then a concerted return to the surface; if, then, it does not thus return, it is fear and not shame. For shame comes about suddenly, not because the soul-capacity is expecting any ill, but, as one might say, because of some inborn softness and timidity, whereby the soul-capacity cannot endure the society of a much greater person, but is eager to run away and, if at all possible, be somewhere else. Because of this it only retreats to the depth, as though running away, without the cooling. When the reasoning-faculty urges on and encourages the emotive part of the soul - [VII.193 Kühn] that which experiences fear and shame - it returns and moves to the surface in a similar manner of motion to that involved in the recall of heat after cold bathing. In fear, however, where the reasoning-faculty is not urging on and encouraging the emotive part of the soul at all, the hot is being constantly and increasingly extinguished, so that some of these even experience rigor. And what they undergo in fear in a concerted way, this they undergo to a small extent in distress: these affections differ from each other in size and violence, not in their overall kind. Indeed, there have even been cases of death resulting from sudden fear, when a naturally weak little soul is seized by a strong affection and is all at once extinguished and choked. ... No one has ever died as a result of rage, since neither is the heat cooled down nor the tension dissolved; but some small-souled individuals have died

through great joy, as also through fear; for the soul-capacity does not move to the surface with both tension and boiling at once, [VII.194 Kühn] but, quite the contrary, it now dissolves and relaxes whatever tension it previously had; so, then it is dispersed when, having reached its maximal relaxation, it is borne towards the outside. Pain, which forces the soul to be moved in an opposite way, presents symptoms similar to the greatest fear. In such cases people lose colour, are cooled, experience rigor and tremor, small pulse and absence of pulse, and finally die in the same way as those who have been terrified. For in these latter, too, the innate heat retreats within to the source, being simultaneously both dissolved and cooled down. And since such affections can cause death, there is, surely, nothing remarkable if they also causing fainting - nor, then, should we be surprised if the symptoms consequent on fainting, in particular involuntary evacuation of excretions, also follow. ... So, when rigor supervenes upon humours which are both hot and biting, there is nothing remarkable in the fact that all the surface parts are all cooled down, as the soul-capacity swims down to the depth together with the blood.'

ἔστι δὴ τις ἐκ τῶν πρώτων καὶ, ὡς ἂν εἴποι τις, ἡγεμονικωτάτων κινήσεων ἢ ἔσω τε καὶ ἔξω πορὰ τῆς ἐμφύτου θερμασίας, ἐπὶ πολλοῖς πάθεσι γιγνομένη ψυχοῖς, ἅμα δ' αὐτῇ δηλονότι καὶ τὸ πνεῦμα καὶ τὸ αἷμα, ποτὲ μὲν ἔσω τε καὶ πρὸς τὴν ἀρχὴν φέρεται καὶ συστέλλεται, ποτὲ δ' ἐκτὸς ἀποτείνεται καὶ χεῖται. αὐτῆς μὲν γὰρ τῆς ψυχῆς τὴν οὐσίαν ἴσως μὲν καὶ κατ' ἄλλην τινα πραγματείαν ἀποφύνασθαι τολμηρὸν, ἐν δὲ τῇ νῦν ἐνεστώσῃ πρὸς τῷ τολμηρῷ καὶ περιπτόν. ἔοικε δ' οὖν ἢ τις ποτ' ἂν ἦ, δυοῖν θάτερον, ἦτοι πρώτοις ὀργάνοις εἰς ἀπάσας τὰς ἐνεργείας χρῆσθαι πνεύματι τε καὶ αἵματι καὶ τῇ θερμασίᾳ τῇ κατὰ θάτερον καὶ συναμφοτέρων, ἢ ἐν αὐτοῖς τούτοις ὑπάρχειν. ἐνεστι δὲ ἐναργῶς θεάσασθαι τὰς κινήσεις αὐτῆς ἐν ἄλλοις τε πολλοῖς καὶ μάλιστα τοῖς ψυχοῖς πάθεσιν. αὐτίκα φόβος τε καὶ θυμός, ὁ μὲν εἴσω τε καὶ πρὸς τὴν [VII.192 Kühn] ἀρχὴν ὑπάγει καὶ συστέλλει τό τε πνεῦμα καὶ τὸ αἷμα σὺν τῷ καταψύχειν τὰ ἐπιπολῆς, ὁ δὲ ἀποτείνει τε καὶ χεῖ καὶ θερμαίνει. τὸ δ' ἀγωνιᾶν ὀνομαζόμενον ἐξ ἀμφοῖν ὑπάρχον σύνθετον, ἀνώμαλόν ἐστι ταῖς κινήσεσι. καὶ τοίνυν καὶ οἱ σφυγμοὶ τῶν ἀρτηριῶν τε καὶ τῆς καρδίας μικρότατοι μὲν καὶ ἀτονώτατοι τοῖς φοβηθεῖσι, μέγιστοι δὲ καὶ σφοδρότατοι τοῖς θυμωθεῖσιν, ἀνώμαλοι δ' εἰσὶ τοῖς ἀγωνιῶσιν. ἐπὶ δὲ τῆς αἰδοῦς εἴσω μὲν πρῶτον ἢ κινήσεως γίνεσθαι τῆς ψυχικῆς δυνάμεως, ἐπάνοδος δ' αὖθις ἀθρόα πρὸς τοῦκτὸς λαμβάνει· ὡς εἶγε μὴ ἐπανέρχοιτο, φόβος ἐστὶν, οὐκ αἰδῶς. ἢ μὲν γὰρ αἰδῶς ἐξαίφνης γίνεσθαι, μηδὲν τῆς ψυχικῆς δυνάμεως προσδοκώσεως κακὸν, ἀλλ', ὡς ἂν εἴποι τις, ὑπὸ μαλακίας τε καὶ δειλίας συμφύτου, μὴ φερούσης ἀνθρώπου πολὺ κρείττονος ὁμιλίαν, ἀλλ' ἀποδρᾶναι τε καὶ εἰ οἶόν τ' ἦν ἐκ ποδῶν γενέσθαι σπευδούσης. καὶ διὰ τοῦτο μόνον ἀποχωρεῖ πρὸς τὸ βάθος, οἶον ἀποδιδράσκουσα χωρὶς τοῦ καταψύχεσθαι. τοῦ λογισμοῦ δ' ἐπεγεύροντος καὶ παρορμώντος τὸ παθητικὸν τῆς ψυχῆς, [VII.193 Kühn] ὅπερ ἐστὶ τὸ φοβούμενον τε καὶ αἰδούμενον, ἐπανέρχεται τε καὶ κινεῖται πρὸς τὰ ἐκτὸς ἐν ὁμοίῳ μάλιστα τρόπῳ κινήσεως, ἐν οἷῳ περ ἂν ἐπὶ ψυχρολουσίας θερμασίας ἐπανάκλησις γίνηται. ἐν δὲ γε τοῖς φόβοις, ἅτε μὴδ' ὅλως ἐπεγεύροντός τε καὶ παρορμώντος τοῦ λογισμοῦ τὸ παθητικὸν τῆς ψυχῆς, αἰεὶ καὶ μᾶλλον κατασβέννυται τὸ θερμόν, ὥστε καὶ ῥιγοῦν ἐνίοις αὐτῶν. ὅπερ δ' ἐν φόβοις ἀθρόως, τοῦτ' ἐν λύπαις κατὰ βραχὺ πάσχουσι, μεγέθει καὶ σφοδρότητι τῶν παθῶν, οὐχ ὅλῳ τῷ γένει διαφερόντων. καὶ τοίνυν ἀπέθανον, ἤδη τινὲς ἐπὶ φόβοις ἐξαφνιδίους, ὅταν ἀσθενὲς φύσει ψυχάριον ἰσχυρῷ πάθει κατασχεθῆν

ἀθρόως κατασβεσθῆ τε καὶ καταπνιγῆ. ... θυμωθεῖς δ' οὐδεὶς ἀπέθανεν, ὡς ἂν μῆτε τῆς θερμότητος καταψυχομένης μῆτε τοῦ τόνου λυομένου · χαρέντες μέντοι μέγανως ἔνιοι τῶν μικροψυχῶν ἀνθρώπων ἀπέθανον, ὥσπερ καὶ φοβηθέντες · οὐ γὰρ ἅμα τόνω καὶ ζέσει κινεῖται πρὸς τὰ ἐκτὸς ἢ ψυχικῆ [VII.194 Kühn] δύναμις, ἀλλ' αὐτὸ τούναντίον, εἴ τι καὶ πρότερον εἶχε τόνου, τοῦτο νῦν ἐκλύει τε καὶ χαλᾷ · διαφορεῖται τοιγαροῦν, ὅταν ἐπιπλεῖστον χαλασθεῖσα φέρηται πρὸς τὸ ἐκτὸς. ὁ δὲ πόνος ἐναντίως κινεῖσθαι τὴν ψυχὴν ἀναγκάζων ὅμοια τῷ μεγίστῳ φόβῳ φέρει τὰ συμπτώματα. καὶ γὰρ ἀχροοῦσι καὶ καταψύχονται καὶ ῥίγοῦσι καὶ τρέμουσι καὶ μικροσφυκτοῦσι καὶ ἀσφυκτοῦσι καὶ τέλος ἀποθνήσκουσιν ὡσαύτως τοῖς ἐκπλαγεῖσιν. ὑποφεύγει γὰρ καὶ τούτοις ἐπὶ τὴν ἀρχὴν ἢ ἐμφυτος θερμασία λυομένη θ' ἅμα καὶ κατασβεννυμένη. ὅπου δὲ θάνατον ἐπιφέρει τὰ τοιαῦτα τῶν παθῶν, οὐδὲν δήπου θαυμαστόν εἰ καὶ λειποψυχίαν. οὐκ οὐκ οὐδ' ὅτι τὰ λειποψυχίας συμπτώματα, τὰ τε ἄλλα καὶ ἡ ἀκούσιος ἔκκρισις τῶν περιπτωμάτων ἔπεται οὐδὲν ἔτι χρὴ θαυμάζειν. ... ὅταν οὖν ἐπὶ θερμοῖς τε ἅμα καὶ δακνώδεσι χυμοῖς γίνηται ῥίγος, οὐδὲν θαυμαστόν ἐστι καταψύχεσθαι τὰ ἐκτὸς ἅπαντα, τῆς ψυχικῆς δυνάμεως εἰς τὸ βάθος συννεούσης ἅμα τῷ αἵματι.

(*Caus. Symp.* II.5, VII.191-4 K.)

APPENDIX 2: Emotional disturbances as causes of physical disease

(A) 'There are also baths, rages, worries, distress and all such things which pretty nearly transform the mixture through their every shift.'

καὶ πρὸς τούτοις ἔτι καὶ λουτρὰ καὶ θυμοὶ καὶ φροντίδες καὶ λῦπαι καὶ πάνθ' ὅσα τοιαῦτα μονονουχὶ καθ' ἐκάστην ῥοπὴν ὑπαλλάττοντα τὴν κρᾶσιν.

(*San. Tu.* I.5, 14,18-20 Koch, VI.28 Kühn)

(B) 'Unbalanced motions within desires, arguments and rages make the animal more bilious, when they are excessive, and more phlegmatic and colder when they are deficient. Moreover, in the former conditions fevers and those affections which are hotter come about, in the latter, obstructions in the liver and internal organs, and epilepsy and apoplexy and anything else of that sort - to summarize, all diseases involving catarrh and flow. And we have restored health to people who were suffering for many years because of the character of their soul, by correcting the imbalance of the motions. ... [particular musical and exercise prescriptions are mentioned for] people in whom the motions of the spirited had become too vigorous and rendered the mixture of the body hotter than it ought to be should be ...

αἱ δ' ἄμετροι κινήσεις ἐν ἐπιθυμίαις τε καὶ διαλογισμοῖς καὶ θυμοῖς, αἱ μὲν ὑπεβάλλουσαι χολωδέστερον ἀποφαίνουσι τὸ ζῶον, αἱ δ' ἐλλείπουσαι φλεγματικώτερον καὶ ψυχρότερον. καὶ δὴ καὶ ταῖς μὲν προτέραις ἔξεσιν οἱ τε πυρετοὶ καὶ ὅσα θερμότερα πάθη, ταῖς δ' ἑτέραις ἐμφράξεις καθ' ἡπάρ τε καὶ σπλάγχνα, ἐπιληψίαι τε καὶ ἀποπληξίαις ἢ τι τοιοῦτον ἄλλο, καὶ συνελόντα φάναι, τὰ καταρροϊκὰ τε καὶ ῥευματικὰ νοσήματα συμπίπτει πάντα. καὶ οὐκ ὀλίγους ἡμεῖς ἀνθρώπους νοσοῦντας ὅσα ἔτη διὰ τὸ τῆς ψυχῆς ἥθος ὑγιεινοῦς ἀπεδείξαμεν, ἐπανορθωσάμενοι τὴν ἀμετρίαν τῶν κινήσεων. ... οἷς αἱ τοῦ

θυμοειδοῦς κινήσεις σφοδρότεροι γενόμενοι θερμότερον τοῦ δέοντος ἀπειργάζοντο τὴν κρᾶσιν τοῦ σώματος ...

(*San. Tu.* I.8, 20,4-17 Koch, VI.41 Kühn)

(C) *The drying effect of emotional disturbances*

'... having been dried out by insomnia, worry, sex, foods, a drying drug, or rage ...'

ἐξηρασμένους ἢ ὑπὸ ἀγρυπνίας, ἢ φροντίδος, ἢ ἀφροδισίων, ἢ βρωμάτων, ἢ φαρμάκου ξηραίνοντος, ἢ θυμοῦ

(*De marcore* 2, VII.690 Kühn)

(D) *Emotional disturbances generate yellow bile*

The leek-green substances are generated in the digestive cavity only by individuals who have performed coction badly. And indeed, worry, rage, distress, exertion, exercise, sleeplessness, fasting and deficiency cause the accumulation of more of the humour of yellow bile in these people, because they also generate more of it in the liver.

τὰ δὲ πρασοειδῆ μόνοις τοῖς κακῶς ἐν τῇ κοιλίᾳ γεννᾶται. καὶ μὲν μὲν δὴ καὶ φροντίδες καὶ θυμοὶ καὶ λῦπαι καὶ πόνοι καὶ γυμνάσια κατὰ ἀγρυπνίας καὶ ἀσιτίας καὶ ἔνδειαι πλείονα τὸν τῆς ξανθῆς χολῆς τοῦτοις ἀθροίζουσι χυμόν, ὅτι καὶ πλείονα γεννῶσιν ἐν ἥπατι. (*De temperamentis* II.6, 78,6-11 Helmreich, I.633 Kühn)

(E) *Emotional disturbances as causes of heating*

'This has all been distinguished in the study of the pulse; it will be enough for now to say that blood becomes wetter than it was in idleness, wet diet, through excess of watery residues; but as a result of rage and exercises, excess heat and massages, a heating drug, nourishment of that kind, and wines of the older, less controlled type, it becomes hotter ...'

διήρηται δὲ ἐν τῇ περὶ τῶν σφυγμῶν πραγματεία τὰ τοιαῦτα σύμπαντα · νῦν δὲ ἀρκέσει τό γε τοιοῦτον εἰπεῖν, ὡς ἐξ ἀργίας μὲν καὶ διαίτης ὑγρᾶς ὑγρότερον ἑαυτοῦ γένοιτ' ἂν τὸ αἷμα, πλενοεξία τῶν ὑδατωδῶν περιπτωμάτων · ἐπὶ θυμῶ δὲ καὶ γυμνασίοις, ἐγκαύσεσι τε καὶ τρίψεσι, καὶ φαρμάκῳ θερμαίνοντι, καὶ τροφῇ τοιαύτῃ, καὶ οἴνοις ἀκρατεστέροις καὶ παλαιότεροις θερμότερον ...

(*De plenitudine* 11, VII.579 Kühn)

'... in another manner the uneven bad-mixture will involve the whole body, sometimes through the retention of a smoky transpiration, sometimes from too

much exercise, or increase in exertions, which extend the heat, and sometimes as a result of rage, where the blood boils in an immoderate way, or through some excess heat, when it is heated from without ...

... κατ' ἄλλον τρόπον ἀνώμαλος ἔσται δυσκрасία περὶ σύμπαν τὸ σῶμα, ποτὲ μὲν λιγνυῶδους διαπνοῆς ἐπισχεθείσης, ποτὲ δὲ ἐκ γυμνασίων πλειόνων, ἢ πόνων αὐξηθέντων, τὴν θερμασίαν ἐπιτεινόντων, ποτὲ δὲ ἐπὶ θυμῷ, ζέσαντος ἀμετρότερον τοῦ αἵματος, ἢ δι' ἔγκαυσίν τινα, ἔξωθεν ἐκθερμανθέντος ...

(*De inaequali intemperie* 7, VII.747 Kühn)

(F) *Emotional disturbances as causes of fever*

(i) 'For, indeed, rage, weeping, anger, distress, worry which is more than it should be, as well as significant insomnia arising from them set off fevers, and become the starting-points of major diseases, as, too, conversely, an idle intellect, mindlessness and a soul which is completely lacking in spirit often bring about lack of colour and lack of nourishment through feebleness of the innate heat.'

καὶ γὰρ θυμὸς καὶ κλαυθμὸς καὶ ὀργὴ καὶ λύπη καὶ πλεῖον τοῦ δέοντος φροντὶς ἀγρυπνία τε πολλὴ ἐπ' αὐτοῖς γενομένη πυρετοῦς ἀνάπτουσι καὶ νοσημάτων μεγάλων ἀρχαὶ καθίστανται, ὥσπερ καὶ τούναντίον ἀργὴ διάνοια καὶ ἄνοια καὶ ψυχὴ παντάπασιν ἄθυμος ἀχροῖας καὶ ἀποτροφίας ἐργάζεται πολλάκις ἀρρωστία τῆς ἐμφύτου θερμότητος.

(*San. Tu.* I.8, 19,31-20,1 Koch, VI.40 Kühn)

(ii) 'Someone who has engaged in immoderate exercise suffers fatigue. This is the same as having immoderate heat, beyond what is natural, in the joints and in the muscles. ... And if the warmth stays there and is dissipated before taking over the whole body, the result will be merely fatigue; but if it extends through whole body, the disease is called 'fever', this being an immoderate heat of the whole animal. So too rage, which is a boiling of the hot around the heart, sometimes, if it takes over the whole body because of an immoderate motion, sometimes gives rise to fever.'

γυμνασθεὶς μὲν τις ἀμετρότερον ἐκοπώθη. τοῦτο δ' ἐστὶ θερμασίαν ἔχειν ἀμετρον ἐν τοῖς ἄρθροις τε καὶ τοῖς μυσὶ πλείονα τοῦ κατὰ φύσιν. ... καὶ εἰ μὲν ἐνταῦθα καταμείνειεν ἢ θέρμη καὶ φθάσειεν λυθῆναι, πρὶν ἐπινειμάσθαι σύμπαν τοῦ ζώου τὸ σῶμα, κόπος ἂν οὕτω γε μόνον εἴη τὸ γεγονός· εἰ δὲ εἰς ἅπαν ἐταθείη τὸ σῶμα, πυρετὸς ὀνομάζεται τὸ νόσημα, τοῦ παντὸς ζώου θερμότης τις ἀμετρος οὔσα. οὕτω δὲ καὶ ὁ θυμὸς, ζέσις τις ὦν τοῦ περὶ τὴν καρδίαν θερμοῦ, διὰ κίνησιν ἀμετρον ὅλον ἐπινειμάμενος ἐνίοτε τὸ σῶμα πυρετὸν ἀνήψε.

(*De causis morborum* 2, VII.4 Kühn)

(iii) 'This much is already evident to all, on the basis of the manifest facts: that some are observed to suffer fever as a result of rage, distress, excess heat or chilling, insomnia, failure to digest, drinking, or excess fulness.'

ὅτι μὲν οὖν ἐπὶ κόποις, καὶ θυμοῖς, καὶ λύπαις, ἐγκαύσεσί τε καὶ ἐμφύξεσι, καὶ ἀγρυπνίαις, καὶ ἀπεψίαις, καὶ μέθαις, καὶ πλησμοναῖς, ὀρῶνται πυρέπτοντες ἔνιοι, πᾶσιν ἀνθρώποις ἐστὶν ἤδη τοῦτο γε πρόδηλον, ὑπ' αὐτῆς τοῦ πράγματος τῆς ἐναργείας δεδιδαγμένοις.

(*De differentiis februm* I.3, VII.279 Kühn)

(iv) 'And rage is as it were a boiling and vigorous motion of the spirited capacity which is seated in the actual body of the heart. With this is simultaneously heated sometimes the substance of the *pneuma*, sometimes that of the blood, and if the receiving bodies happen to be in a favourable state for the retention of the heat for an extended period ... these remain unnaturally hot, and in this case the person necessarily suffers fever. ... But that fever which takes place as a result of distress is not has as its source not boiling, but only motion; that as a result of fatigue also has as its source larger motion of muscles, nerves, ligaments and joints: these are heated primarily, but the heat is transmitted from there to the heart by the connection, and in this process they suffer fever.'

ὁ δὲ γε θυμὸς οἷον ζέσις τις καὶ κίνησις σφοδρὰ τῆς θυμοειδοῦς δυνάμεως ἐν τῷ σώματι τῆς καρδίας αὐτῷ καθιδρυμένης. συνεκθερμαίνεται δὲ αὐτῇ ποτὲ μὲν ἢ τοῦ πνεύματος, ἔστιν ὅτε δὲ ἢ τοῦ αἵματος οὐσία, καὶ ἦν ἐπιτηδείως ἔχοντα τύχη πρὸς τὰ δεξάμενα κατασχεῖν ἐπὶ πολὺ τὴν θερμότητα ... διαμένει ταῦτα παρὰ φύσιν θερμά, κἄν τῷδε πυρέπτειν ἀνάγκη τὸν ἄνθρωπον. ... ὁ δὲ ἐπὶ λύπαις οὐκέτι ζέσιν, ἀλλὰ κίνησιν μόνον · ὁ δ' ἐπὶ κόποις, ἀρχὴν μὲν καὶ αὐτὸς ἔχει κίνησιν πλείονα μυῶν καὶ νευρῶν καὶ συδέσμων καὶ ἄρθρων, ἃ δὴ καὶ πρῶτα θερμαίνεται, διαδίδεται δὲ κατὰ τὸ συνεχές ἐντεῦθεν εἰς τὴν καρδίαν ἢ θερμοσία, κἄν τοῦτω πυρέπτουσιν.

(*De differentiis februm* I.4, VII.283-4 Kühn)

(v) 'The causes of generation of them [sc. fevers] are: insomnia, failure to digest, distress, fear, rage, worry, excess heat, chilling, fatigue and drinking and all those sorts of thing. How to discern these ... I shall explain: in common to all of them, the pulse increases in speed and frequency ...'

αἱ προφάσεις δ' αὐτῶν τῆς γενέσεως ἀγρυπνία καὶ ἀπεψία καὶ λύπη καὶ φόβος καὶ θυμὸς καὶ φροντίς, ἔκκαυσις τε καὶ ψύξις καὶ κόπος καὶ μέθη καὶ πάνθ' ὅσα τοιαῦτα. πῶς οὖν γνωρίζειν ... διείμι · κοινῇ μὲν ἀπάντων ὁ σφυγμὸς εἰς τάχος ἐπιδίδωσι καὶ πυκνότητα ...

(*De crisibus* II.13, IX.696 Kühn)

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