CHAPTER 4

Theoretical Aspects of Imperial Nosology
Localization, Semiotics, Chronology, Aetiology (First–Sixth Centuries CE*)*

In the early centuries of our era, medical writing (of course, based on the evidence available to us, and bearing in mind the fragmentary nature of Hellenistic surviving evidence) began to take the shape we tend to expect of technical writing today, in two fundamental senses: systematicity and logical rigour, and theoretical engagement. We cannot engage here with the degrees, nuances and differences between authors vis-à-vis these developments. It is enough to note that with the nosological authors at the beginning of our era and with Galen, the approach to pathology increasingly displays the neater terms which have become standard in modern medicine. Writers such as *Anonymus Parisinus*, Aretaeus and Caelius Aurelianus now formalize and itemize fundamental nosological topics: localization, etiology, illness course, prognosis and the semiotics of a disease. The division of diseases into 'acute' and 'chronic' has also become conventional by this point.[1] Not only that, but these become theoretical problems and objects of debate, as is evident to the highest degree in Galen.

This chapter concentrates on the theoretical aspects of nosology that emerge in a mature formulation in these centuries: first, the thematization of the affected place, in the case of *phrenitis* in two medical figures of the dogmatist tradition, Aretaeus and Galen, who adopt different positions in this respect; and second, the sophisticated discussions in Galen of semiotics, the chronology of pathological manifestations and aetiology as a topic. Galen himself, although not explicitly interested in nosology as a medical genre,[2] discusses and problematizes the questions it implies. In particular, these include the validity, reliability, specificity and necessity of diagnostic signs, which I sometimes categorize under the term 'cogency'; the causes

[1] A Methodist distinction. But the category was found already in previous medicine; see Roselli (2018) 182–87; Thumiger and Singer (2018a) 8 on mental diseases; Singer (2020a).

[2] Although he is interested in principles of nosological classification; see especially *Symp. Caus.* 2.2, 2.7 (7.149, 202 K.), on which Singer (2020a) 390–91; *Loc. Aff.* 1.7 (7.66–68 K.) on the distinction between physical and psychic *loci* and corresponding affections.

and courses of illnesses; and most important, localization, to which he devotes a full treatise, *On the Affected Places* (*De locis affectis*, *Loc. Aff.*).

Aretaeus and Galen are both key figures in the medical history of the early centuries of our era, despite the huge disproportion between the two in terms of how much information there is about them and how much of their work survives. Aretaeus authored a work on *Acute and Chronic Diseases* with a related *Therapies of Acute and Chronic Diseases*, a text which testifies to intense medical activity as well as extensive knowledge of authors from the past. He probably lived in the first–second centuries CE (although our biographical information is extremely poor[3]), which might be taken to explain Galen's silence about him. Galen, the much more famous, prolific and nominally influential physician of Pergamon, lived and operated between the second and third centuries CE and left behind an immense corpus of writings in all areas of medical science and beyond, which exerted a fundamental influence on the history of Western bio-medical sciences.

Localization in the Second Century CE: *phrenitis* between Head and Chest in Aretaeus and Galen

In Galen and other medical authors in the imperial period, localization is a key nosological topic. Not only is it central to their discussions, but it is also complicated and problematized through various intellectual strategies (for example, the notion of primary vs secondary affection, described in terms of sympathy or co-morbidity[4]). It is through these complications and elaborations, all of which endow the localized pathological model with flexibility, that the question of the *locus* of the disease is made central by most medical thinkers, by omission even by those – as seen in the preceding chapters – who were uninterested in or even hostile to the question itself.

Aretaeus: A Sophisticated Integrated Model

Aretaeus emerges from his medical discussions as a medical thinker and author of the highest degree of erudition and clinical competence. According to his doctrine, not only is the condition of the *pneuma* fundamentally important for human health, in connection with the four

[3] See Oberhelman (1994) on the issues; Nutton (2004) 210–11. For a survey of Aretaeus on *phrenitis*, see Murphy (2013) 30–79.

[4] It is correct to continue to see such forms of physiological *sympatheia* as 'problematized' or 'complicated' *forms of* localization, fundamentally different from the *challenges to* localization explored in Chapter 3. Holmes (2020) explicitly sketches out the distinction.

humours, but the heart emerges as the core location in human physiology and the seat of the mental faculties alongside the brain. Aretaeus also refers several times to the term *neura* (νεῦρα) to indicate the stringy formations in the body, but also organs such as the liver, which further complicates our reading, as we shall see.[5]

As in Celsus and Caelius Aurelianus, so too in Aretaeus *phrenitis* was placed first in *On Acute Diseases*. For a work in which pathologies are largely organized following the conventional order *a capite ad calcem*, from head to toe, this placement of *phrenitis*, a disease emphatically known as mental, at the beginning exposes a first sidestepping or correction of the writer's cardiocentric beliefs. Even if cardiocentrism is not a fixed, rigidly codified doctrine,[6] one would still expect Aretaeus to localize *phrenitis* in the heart and chest, as others had. Instead, an implicit association with the head appears to be a premise of the nosological survey of *phrenitis* he offers.[7] This partial inconsistency goes even further, since *phrenitis* is followed by *lēthargos*, also a chest disease and often coupled with *phrenitis* in authors of this period – Celsus, as we have seen, and Galen.[8]

The actual discussion of *phrenitis* and *lēthargos* in Aretaeus' *On Acute Diseases* is lost, but we have the relevant sections of his *On Therapies for Acute Diseases*, in Book 5.1 of which he offers a lengthy account of the therapeutics of *phrenitis*. From this section, a considerable amount of information about the physician's view of the disease can be extracted. In particular, what emerges first is the key role played by the *neura* – here in the modern sense of 'nerves' – reflecting a general development in post-Hellenistic medicine. Although Aretaeus is a cardiocentrist, he highlights the *neura*/nerves as a vulnerable body part in phrenitic patients, who are prone to convulsions and should sleep in beds that are neither too big nor too small in order to soothe their '*neura*' (91.21–92.1 Hude). Extending the discussion, apparently, to other organs in the body, Aretaeus mentions the

[5] I adopt '*neura*' as a convenient working equivalent of Greek *neura* (νεῦρα). It is important to avoid the suggestion that a notion comparable to that of our neurology was in place. In Greek (e.g. Hippocratic) medicine, the *neura* were initially identified with the sinews of the body. Aretaeus in particular applies the term to the stringy structures that emerge from the brain, but also to the bladder and the uvula, and to parts which seem capable of contracting. Galen describes them in a manner closer to and indeed identifiable with our own understanding, and I accordingly use 'nerves' when I quote him. A relationship to pain, sensation and control appears to belong to all these uses of the term.

[6] The labels 'cardiocentrism' vs 'encephalocentrism' are less rigid than one might think, vary at different historical points, and have stronger and weaker versions. Aretaeus' cardiocentrism is evident, for example, in his repeated reference to the heart as the centre of cognition, although this is accompanied by an acknowledgment that the brain is the key centre for the elaboration of sensations.

[7] For a list of head-centred diseases and their mental aspects, see Thumiger (2017) 48.

[8] See below and above on this topic, pp. 75–78, 86, 101–03.

'agreement' or 'sympathy' between *neura* generally and the overall state of the individual (*neurōn koinōniēs*) as one reason to address the pleura, diaphragm, heart and chest in acute diseases (96.23 Hude). He thus recommends taking care not to damage the *neura* when giving cold water in cases of *kausos* (97.14–17 Hude). According to this general doctrine, then, *neura* are a fundamental locus for *phrenitis* as well.

Second is the importance of diet not only for nutrition, along traditional lines, but also in consideration of the psychological benefits food offers.[9] The physical remedies mentioned are in the first instance nutritional (moderate fasting and a recommendation that food be liquid and scanty and be given frequently: 'Food also soothes the emotional state of the person (*meiligmata . . . kai thymou*)' (92.9 Hude). The right time to offer food is during remission, but it can also be given if a patient 'becomes delirious for want of food' (92.9–12 Hude). Liquid food is especially suitable for fevers (93.6 Hude).

Third, venesection (92.21–22 Hude) and the application of plasters of various kinds to specific body parts are important for *phrenitis*. The first point of attention for these measures in the body is the head, which is again not a straightforward choice in a cardiocentric perspective, but which Aretaeus explains as follows: 'We may open a vein more boldly in these cases if the disease proceeds from the *hypochondria* and not the head; for there (*sc*. in the *hypochondria*) is the origin of life (*enthade gar tēs zōōs esti hē archē*). But the head is the seat of sensation (*kephalē de chōros men aisthēsios*) and of the origin of the *neura* (*kai neurōn aphesios*)' (92.26–29 Hude). Here the theme of the localization of different faculties emerges clearly, since two sites for the disease *phrenitis* are mentioned, although the relationship between them is not problematized: the heart is the *archē*, while the head is the *chōros* of sensation through the *neura*, and both should be targeted. In line with this duality, therapy is directed both to the head and to areas in the torso.[10]

For the former, 'the head must be dampened with the oil of unripe pounded olives; for in phrenitics the head does not like to be kept warm' (93.28–30 Hude), with different recipes as the delirium worsens, and varying frequency depending on the stage the paroxysm has reached. As a measure against delirium, fomentation[11] of the forehead or face, nose and

[9] A topic this and other authors from the same period recognize: see Thumiger (2018a) on food and psyche in imperial and late-antique medicine.

[10] The remarks of Lewis (2018) could then be extended to their full dimension: not only are several authors not bothered by the contradiction between their cardiocentric belief and encephalo-directed therapies, but they theorize and justify the dual localization.

[11] As previously explained, the application of a lotion or poultice to the affected part.

ears with specific preparations is advised (94.11–14 Hude).[12] Scarification[13] (96.7–15 Hude) is also described; if delirium persists, 'cropping of the head', that is, giving a hair-cut, might be necessary, depending on the length of the patient's hair (96.15–17 Hude). As far as the torso is concerned, both the area of the *hypochondria* and the underlying gastric cavity (*toisi de hypochondrioisi kai tēi koiliēi*, 95.3 Hude) are targeted. These should receive cataplasms and embrocations[14] if 'distended by inflammation, hardness or flatulence' (95.3–4 Hude). The liver, in case of pain (95.9 Hude), and the spleen (*splēni*, 95.13 Hude) should receive specific applications; if the *hypochondrion* becomes 'collapsed and retracts upwards, and the skin is taut', another recipe (95.15–18 Hude) is recommended. The effects of these cataplasms are even greater 'when conveyed internally to the trachea, the lungs and the thoracic cavity' (*eisō parelthon artēriēi kai pneumoni kai thōrēkikai koiliēi*, 96.1–2 Hude), because 'delirium in certain cases arises from one of the parts in the chest' (*ek tinos tōn en tō thōraki*, 96.26–27 Hude). The bowels (*tēn koiliēn*) should be purged regularly (96.2–4 Hude) 'in order to produce attraction/suction of the [humours deriving from the head]',[15] yet another strategy to account for the involvement of multiple localizations. At the same time, there is no explicit mention of the *phren(es)* in Aretaeus.[16] Elsewhere in his work, at 3.5.1 (39.14 Hude) and 3.5.4 (40.7 Hude), the *phrēn* is the place where black bile can pathologically accumulate, causing *mania* and *melancholia*;[17] he also uses *diaphragma* to indicate the same body part.[18] Still, a connection between *phren(es)* and *phrenitis* is not established etymologically or terminologically, and the role played by the chest is presented as a deeper doctrinal element, not as lip service to a traditional feature of the disease.

In sum, Aretaeus resorts to a plurality of locations and physiological 'systems': nerves/*neura*, head, gastric parts and various physiological processes. The composite nature of the pathology that emerges should not, of

[12] Cf. also 94.28–29 Hude below on the importance of head, face and temple massage, which can soothe even wild beasts (*ta thēria*).

[13] The removal (typically superficial) of layers of skin and flesh from the body.

[14] The rubbing of a substance onto the body.

[15] Compare below on the *stomachos* (στόμαχος), 5.1.25 (97.5–7 Hude): 'If the stomach is affected with torpor and loathing of food, the juice or fronds of wormwood are mixed up with them, and the hypochondriac region is to be fomented with this boiled in oil' (5.1.26; 97.10–14 Hude).

[16] See McDonald (2009) 94.

[17] *phren(es)* is also used in the conventionally psychological sense, e.g. with reference to the effects of wine, at 5.1.28 (97.29 Hude); cf. McDonald (2009) 94 n. 53.

[18] 2.7.2 (27.11 Hude); 2.8.2 (28.17 Hude); 3.9.1 (49.15 Hude); 5.1.23 (96.24 Hude), where damage to the diaphragm (*diaphragmatos kakiē*) features among the affections of the region around the heart, involving the stomach and pleura.

course, appear contradictory or even problematic to us as readers. But we ought to note how this more open, pluralistic view of the pathology Aretaeus adopts differs from the clear remarks of his predecessors and most of his successors, who took either diaphragm-chest or brain and meninges as localization. Instead, at 96.19–27 (Hude) Aretaeus explains that generally 'in *all* acute diseases the chest must be remedied, since this part *generally* suffers along with the heart and the lungs . . . Moreover, in cases of *phrenitis* these parts in particular must be soothed. For the delirium in certain cases arises from one of the parts in the chest.' Elsewhere, in the discussion of *mania* at 3.6.7 (42.29–43.1 Hude), the same principle is affirmed: 'The cause of the disease is seated in the head and hypochondriac region, sometimes commencing in both together and the one imparting it to the other . . . In *mania* and *melancholia*, the main cause is seated in the bowels, as in *phrenitis* it is mostly seated in the head and the senses (*en tēi kephalei kai tēisi aisthēsesi* – referring as before to the head as centre of sensation via *hendiadys*?)', with a remarkably abstract use of the term *hai aisthēseis*, 'senses'.[19] There is no perceived inconsistency between this emphasis on the head, the cardiocentric doctrine and the account of the gastroenteric signs of *phrenitis*.[20] In short, a sophisticated model of interaction and internal sympathy is offered, such as to make Galen's disdain for the 'contradictoriness' of cardiocentrists, when they address the head in their therapies, a simplification, perhaps in bad faith.[21]

To understand localization in *phrenitis*, it is instructive to compare Aretaeus' accounts of *melancholia* and *mania*, the other two elements of the triad that in Celsus, as we have seen, express the three main types of *insania* (a long-lasting, traditional grouping).[22] For Aretaeus, the typical madness of phrenitics, their misjudgements and hallucinations, precisely characterize a location in the brain as seat of the senses, while manics and melancholics rave in ways that betray affection of the heart as the seat of cognition (5.1.5, 92.26–29 Hude). In both *mania* and *melancholia*, the area

[19] By contrast with the discussion of *mania* quoted above, however, in *phrenitis* the anatomy and the embodiment are strongly emphasized, as is the fever, while the psychological sphere is comparatively much less developed. *Phrenitis* emerges as an organic disease with a complex localization.

[20] Discussing *synkopē* and *kausos*, Aretaeus sees *aisthēsis* as a faculty of the heart (*Acut. Symp. Caus.* 11.3–4).

[21] Aretaeus explicitly distinguishes the locus targeted by therapeutic action from the primary seat of the disease. Describing *synkopē* as a disease of the heart through affection of the stomach, against those who believe it to be a disease of the stomach instead, he makes a general (and ironic) point at *Morb. Ac.* 11, 3 (22.10–19 Hude) that involves *phrenitis*: such mistaken physicians 'ought to hold *phrenitis* a disease of the hair and skin of the head, since phrenitics are relieved by the shaving and wetting thereof'.

[22] See Thumiger and Singer (2018a) 10–15.

of the *phrēn* becomes engorged with black bile, and the seat of the disease is obviously the *hypochondrion*, even if the head may be sympathetically involved. In conclusion, it is notable, and somehow ironic, that Aretaeus emphasizes a primary localization in the brain and *neura*/nerves precisely for the one disease, of the three notable psychiatric entities, which has the root *phren-* in its name, but that he nonetheless involves the chest region in his account of it to an important extent, a move that contributes to rendering delocalization more flexible and nomenclature more mature. Galen, as we shall see, takes a similar step, but in a more radically encephalocentric and neurological spirit (and, of course, opposing the anatomical frame offered by others).

Galen and the Localization of *phrenitis*: The Nerves, the Brain, the Diaphragm

Inquiry into the nervous system and mapping the functions of the soul are a central project of Galen's scientific career. This is particularly clear from *On the Doctrines of Hippocrates and Plato* (*De placitis Hippocratis et Platonis*, *PHP*), in which he endeavours to bring the doctrines of Plato, and especially his tripartite organization[23] of the soul as expressed most notably in the *Timaeus*,[24] into agreement with those of Hippocrates – that is, of Galen's own interpretation of Hippocrates,[25] giving full expression to his development of the discoveries of the Ptolemaic scientists Erasistratus and Herophilus, and in disagreement with Aristotle and the Stoics.

In *PHP*, Galen distinguishes three parts of the soul, the *hēgemonikon*/*logizomenon* ('rational'), the *thymoumenon* ('spirited') and the *epithymoumenon* ('desiderative' or 'appetitive'),[26] located in the brain, heart and liver, respectively. At the same time, the brain is described as the anatomical point of origin of the nerves, observed as filaments distributed lengthwise

[23] That is, composed of hegemonic, located in the head; passionate, located in the chest; and nutritive, located in the liver.

[24] *Ti.* 69d–72d on the brain as central seat of the rational soul.

[25] In this chapter and the next, much of the narrative about the evolving history of the disease *phrenitis* will be presented though the lenses of one particular genre, the commentary, which Galen produced prolifically. Galen wrote commentaries on a variety of Hippocratic texts, offering his own clarifications, interpretations and distortions of the work of the great predecessor he treated as an authority and point of reference. These texts offer a precious opportunity to observe *inter alia* a process of scientific appropriation and reshaping in the making. On Galen's commentaries, see Manetti and Roselli (1994); Gill (2010) 87–93; Boudon-Millot (2018); chapters and introduction in Pormann (2021); Coughlin (forthcoming b). For a list and bibliography, see Savino (2013).

[26] Cf. *PHP* 7.1.27–2.17 (434.10–438.23 De Lacy = 5.594–600 K.) on this thesis and the refutation of Aristotle and the Stoics.

within the body; the *hēgemonikon* in the brain is thus endowed with a full connection to embodied activities such as sensation and other voluntary functions, notably movement.[27] Also residing in the brain is the 'psychic pneuma', a fluid substance which is essential in connecting the brain and various parts of the nervous system and in facilitating the function of nerves in imparting orders and information.[28]

In line with this doctrinal approach, Galen localizes the causation and onset of *phrenitis* in the brain, taking the nerves originating there to be its *locus affectus*. As he clearly states in *On the Function of the Parts* (*De Usu Partium*, *UP*) 17 (II, 450 Helmreich = 4.363 K.), 'anyone who has learned that the work of reasoning (*logizomenon*) is carried out in the brain (*enkephalon*) will know that delirium (*paraphrosynai*), *phrenitis*, *lēthargos*, *mania* and *melancholia* occur when the *enkephalon* is affected either primarily or through sympathy'.[29] The consequences, often left implicit but no less significant for that, are many. First, in terms of functions, *phrenitis* is an affection of the *hēgemonikon*, and specifically of the *dianoētikon*.[30] In terms of anatomy, *phrenitis* is an affection of the brain and nerves, and involves the physiology of the psychic *pneuma*, which is responsible for human reasoning faculties. As Galen explains, 'since all men call *phrenitis* the state in which they see that the "mind" = *phrenes* have been damaged (*hēi tas phrenas horōsi beblammenas*), by which name they mean *nous* and *dianoia*, it is necessary that the part of the body in which the intelligence of the soul is located first be identified (*heurēsthai chrē proteron en hōi tou sōmatos moriōi to phronou tēs psyches estin*)' (*A Commentary on the Prorrhetikon of Hippocrates* (*Comm. Hipp. Prorrh.*) *I*, 1.4 (17.1–4 Diels = 16.518 K.).

Pathologically, *phrenitis* affects the entire body through the network of nerves, with a variety of consequences in different parts. The psychiatric disturbance thus touches all aspects of mental health, from the voluntary functions, to reasoning, to 'neurological' reactions,[31] to behaviour and

[27] For the brain as *archē* of our mental life, see Centanni (1987) 14, 55; Rocca (2003), esp. 201–38.

[28] Following the Erasistratean doctrine of distinguishing between 'vital *pneuma*' located in the heart and travelling through the blood vessels, and psychic *pneuma* (*PHP* 1.6.1–3, 78.16–25 De Lacy = 5.184–85 K. = 78; 2.8.36–38, 164.8–16 De Lacy = 5.280–81 K.).

[29] Galenic psychopathology is complex, and his commitment to nosological classification and localization is subordinated to clinical pragmatism, as Devinant (2020) demonstrates. We are thus here somehow artificially extracting information about one individual disease from an author who never compartmentalized discussions of (mental) diseases as self-contained units as other nosological authors did.

[30] As Galen writes in *Caus. Symp.* 7.60–61 K.

[31] In the modern understanding of the term, 'neurological' damage more explicitly belongs to the motoric sphere (voluntary and involuntary: tremors, spasms, paralysis) in its sensory and metabolic aspects.

character. The physiology and anatomy of the brain, with its distinct regions and its ventricles, explains the variety of manifestations of *phrenitis*. As Galen explains in humoral and encephalocentric terms, the disease affords a variety of symptoms, sensorial and dianoetic, with each of these in turn ramifying into more manifestations, depending on the section of the brain affected.[32]

Galen anchors *phrenitis* to two hard bodily facts: the symptom of fever and a 'primary', or 'original' localization in the brain and nerves.[33] These are not only concomitant but interconnected, as explained in *On the Affected Parts* (*Loc. Aff.* 3.7, 8.165–66 K.). Here Galen reports two cases of individuals suffering damage to their reasoning through excessive work, exertion and undernourishment:[34]

> Obviously, both of these were *harmed by all drying and heating factors*, *and benefited by those which moisten and simultaneously heat.* Damage to leading activities arises in conjunction with *fever* as well, as in the cases of *phrenitis and lēthargos* – [these conditions] also arise without fever, as in *mania* and *melancholia* – and also in cases both of sympathy with and (following a) primary affection (*prōtopatheia*) of the brain.[35]

That the locus of this damage is the brain, says Galen, is self-evident to both physicians and laymen, although the point might escape philosophers, committed as they are to the prejudices of their speculations and of the sect to which they belong. Some of them, Galen knows, locate the origin of diseases such as *epilēpsis* or *phrenitis* in the torso (*Loc. Aff.* 3.7, 8.166–68 K.):

> Now the fact that all impairments of the leading activities arise in the brain (*to men oun enkephalōi panta ginesthai ta tōn hēgemonikōn energeiōn pathē*) is agreed upon by all doctors (as long as they do not think one thing in their soul, but say another as the result of the argumentative compulsion of a sect). But to discover the nature of a bad mixture is not a trivial task. For this, the doctor must have both a devotion to work and a capacity for enquiry, and not in the sense of investigating how he may contradict what has been correctly stated by previous authors on the leading part of the soul – a matter so manifest that even uneducated people are convinced that

[32] See Chapter 5, p. 143.

[33] In *On the Affected Places* (esp. 2.10, 8.120–34 K.; 3.1, 8.136–44 K.), Galen clarifies at length the concepts of *prōtopatheia* and *idiopatheia* in discussions of pathology, i.e. the prior, specific and primary involvement of a part as origin of the disease, its original seat, on the one hand, and its involvement via sympathy and co-affection, on the other.

[34] On fever in this context, see Centanni (1987) 55.

[35] Cf. *Symp. Caus.* 1.8 (7.144 K.), where the emphasis falls on another aspect, the dryness caused by the quality of humours: 'On the other hand, a more excessive dryness (*xērotēs*) or heat (*thermotēs*), as in the *phrenitides*, due to some either mordant or hot humour, produces irritation or insomnia.'

> it is in the brain. One might, perhaps, forgive philosophers sitting in some corner for being mistaken on this point. But such argumentativeness – I should rather say, shamelessness – is unforgiveable amongst those with long experience in medical matters. For they bathe the head in all cases of infirmity arising from insomnia, as also in all cases of delirium (*parapaiontes*), *phrenitis* and *lēthargos*. Archigenes applies medicaments to the head in cases of damage to the memory as well, and the treatment he will undertake for a patient who is 'stupefied' (*mōrōthenta*) will also all be applied to the head.

The practicalities of clinical experience are called to witness:

> What doctor with any experience will heal sufferers from *apoplēxia*, *epilēpsia*, *opisthotonos*, *emprosthotonos* or *tetanos* in any other way? or for that matter those suffering from paralysis of half the body? Do not all doctors address the main part of their therapy to the first vertebrae, in cases of spasmodic impairment, since the test of experience leads them to this immediately – as also in the case of those with paralysis of half the body, in which situation they simultaneously heat the brain as well? Sufferers from *apoplēxia* are also cured this way, as well as sufferers from *epilēpsia*. When the impairment arises as a result of the mouth of the stomach or another part, they treat that part especially and primarily (*malista kai prōton*), but prepare the brain as well against the possibility of falling into impairment (*paraskeuazousin de kai ton enkephalon eis dyspatheian*).[36]

These comments and developments are central and may at first sight appear at odds with Galen's mention and use of *phren*(*es*) in discussions of *phrenitis*. At *PHP* 8.9 (536.3–4 De Lacy = 5.716 K.) he still feels the need to remind his readers that Plato and other ancients identified *phrenes* with *diaphragma* (διάφραγμα),[37] stating once and for all that the abstract, figurative meaning of *phrēn*/*phrenes* and the anatomical one are completely unrelated. He now employs the term, therefore, to refer abstractly to the mind and mental faculties[38] (or to indicate the diaphragm through which

[36] I thank P. N. Singer for this translation of the passage in question, which I have used with some changes.

[37] Galen also dwells on the history of the term *phrenes* and its relation to the disease *phrenitis* at *Loc. Aff.* 5.4 (8.327–28 K.); see below, pp. 109–10.

[38] Cf. *PHP* 3.3–4 (184.11–200.17 = 5.302–21 K.), where Galen amasses various quotes against Chrysippus' claim that the heart is the seat of the rational soul, blaming him for quoting only poetic passages that in fact show the breast to be relevant to mental activities, but as seat of the spirited rather than the rational soul (*phrenes*). Here Galen intends *phrenes* in the psychological, abstract sense, as at 3.8.9 (224.27 De Lacy = 5.350 K.) and 9.6.42 (580.29 De Lacy = 5.771 K.), where the term is used to describe how the 'mind' is affected by wine, as well as in the expression *phrenōn hapsis*, 'touching of the *phrenes*' at 9.6.47 (582.12 De Lacy = 5.772 K.). (We saw the connection already with Aretaeus.) At 6.2.7 (370.2 De Lacy = 5.516 K.) Galen also appears to follow the *Timaeus* in locating the desiderative soul between the *phrēn* and the navel. This concrete, basic sense of the

the vena cava runs, along the same lines as the Hippocratic discussions[39]). These uses of *phrenes* thus appear conventional and idiomatic rather than medically relevant.

At the same time, Galen *also* reserves an important place for this body part in the pathological account. Despite this stark position against cardiocentrism and his criticism of any therapy for mental affections that targets locations other than the head, later in *On the Affected Places* he offers a discussion of mental disorders and an account of *phrenitis* which involves and even prioritizes the diaphragm of all places (*diaphragma*).[40] On this occasion he engages again with the name of the disease and the tradition of its localization in the chest and the 'diaphragm' (*Loc. Aff.* 5.4, 8.327–32 K.):

> All the ancients called the lower boundary of the chest *phrenes* because this term came to their mind, or because, as some believe, inflammation [of this area] damaged the patient's mind ... We will here repeat [the account of the] diseases which connect the *diaphragm* (διάφραγμα) through sympathy with the higher source [of reasoning] in the brain above ... Now, *paraphrosynē* results also from a poor state of the opening of the stomach, and further from burning fevers, *pleuritis* and *peripneumonia*. If *paraphrosynē* originates around the diaphragm (*phrenes*), [the patients] are close to phrenitic (*engys tōn phrenitikōn eisin*). When the *paraphrosynē* arises from ailments of the other parts, and from burning fevers, it subsides in the period after their peak. But a specific and exceptional feature of *phrenitis* is that the delirium does not subside after the peak of the fever, because the brain is not involved by sympathy during this disease, but by specific affection (*idiopatheia*) or primary affection (*prōtopatheia*). Therefore, this disease [*paraphrosynē*] develops gradually, and the patients do not become deranged suddenly and all at once, as [in diseases originating in] other organs.[41]

What follows is an illustration of the characteristic symptoms when the *prōtopatheia*, the primary localization of the disease *phrenitis*, is in the

term is also found at 6.3.42 (382.29 De Lacy = 5.532 K.), 6.8.69 (422.4 De Lacy = 5.580 K.) and 9.9.12 (534.35 De Lacy = 5.716 K.), where the *phrēn* is the dividing partition between the two kinds of 'soul' and two regions in the torso.

[39] *PHP* 1.7.43 (88.17 De Lacy = 5.197 K.); 6.5.12 (390.12 De Lacy = 5.541 K.); 6.8.59 (420.4 De Lacy = 5.578 K.), 6.8.63–66 (420.20, 22, 26, 27, 28 De Lacy = 5.578 K.).

[40] As do Aretaeus and other nosological discussions of the same period.

[41] On the functions and etymology of *diaphragma* in Galen, including its role as a 'barrier' (the literal meaning of the term) between the respiratory parts and those that receive nutriment, see *On the Function of the Parts* 5.15 (291–92 Helmreich).

diaphragm as opposed to the brain; this is the most exhaustive such presentation in Galen.[42] For instance:

> Those whose brain is . . . affected gradually become delirious (*phrenetizousin*). *We do not encounter a continuous delirium because of any organ other than the diaphragm alone*. This kind of delirium is nearly continuous. The ancients therefore presumed that patients became phrenitic because this particular organ is inflamed. They called the diaphragm *phrenes* on the assumption that it is connected to the body part responsible for thinking.

At the end, Galen summarizes these two directions in the conception of the development of *phrenitis*:

> Those symptoms which . . . are manifest prior to *phrenitis* are either absent or of minor importance when the inflammation starts at the diaphragm. By contrast, the *hypochondrium* itself is contracted when the patients suffer from a disease involving the diaphragm from the very beginning, or when the disease spreads later to the brain . . . The heat is greater in the head and face of patients in whom the delirium starts at the head.

Ocular symptoms also set 'diaphragmatic delirium' apart from *phrenitis*, as do nosebleed and the quality of respiration. The latter is shallow and frequent, unlike the deep, slow respiration of cerebral *phrenitis* (*Loc. Aff.* 5.4, 8.331 K.).

Galen recognizes the involvement of the hypochondriac region in some cases of *phrenitis* also at *Comm. Hipp. Prorrh. I*, 2.9 (59.25–60.16 Diels = 16.606–08 K.), where he comments sceptically on the following statement: 'Shrill voice, in patients whose *hypochondria* are drawn out'. Galen agrees only in part with this observation:

> There are many doctors who included in their writings a retracted *hypochondrium* among the signs that accompany *phrenitis*; for many phrenitics appear to be affected this way. The present [quoted] discussion, however, does not say 'retract' but 'pulled towards the inside'. But you, wishing to fully represent the truth, should combine the two and say that they are pulled up and towards the inside, which is likely to be due to the oblique/crosswise position of the diaphragm.[43]

As these examples show – tortuously at times – it is precisely in a chapter criticizing false etymologizing about the name *phrenitis* that Galen introduces a disease that is similar in many respects to *phrenitis*, or a form of

[42] Devinant (2020) 175 n. 6 as well recognizes this as the 'most complete' description.
[43] On the *hypochondria*, see also *Comm. Hipp. Epid. III*, 3.91 (186.23–187.4 Wenkebach = 17A.791 K.).

phrenitis, located at least in its defining onset in the diaphragm, although the brain is affected later.[44] The effect, if not the explicit intent, is to maintain awareness both of the name of the disease etymologically linked to *phren-* and of the traditional diaphragmatic connection. Galen speaks of a mistake by the ancients, who failed to distinguish between the delirium of those who have an inflamed diaphragm and those who have *phrenitis* whose derangement is continuous, as the quality of the patients' breathing testifies ('for this reason this presupposition was reached by the ancients, *di' auto touto doxasthēnai tois palaiois*', *Loc. Aff.* 5.4, 8.331 K.). This mistake made the ancients give the name *phrenes* to the concrete place, the diaphragm, on analogy with *phren*-based terminology of thinking and mental life.

It is interesting that this distinction is related to the one made by the Hippocratic author of *Sacred Disease*. In that case, the author did not question the seminal role played by *phrenes* as a location or as a term of medical vocabulary. Rather, he stigmatized the belief that its reactivity to emotions might suggest it was a seat for the mental in any active, independent form.[45] In any case, Galen persists in using *phrenes* as a synonym of *diaphragma*, despite finding this confusing and ill-conceived, as also at *Loc. Aff.* 5.4, 8.329 K.: 'Those [*paraphrosynai*] originating through the diaphragm are close to those of the *phrenitics*.'[46]

The chest area more comprehensively around the diaphragm and the *hypochondrium* is also considered a locus of inflammation with possible mental consequences at *Comm. Hipp. Progn.* 1.23–24.[47] Galen is commenting on the related Hippocratic lemma 'Frequent breathing signifies pain or inflammation in the regions above the diaphragm.[48] Drawing large breaths, and for a long time, indicates delirium. Exhaling cold air from the nose and the mouth becomes in fact very fatal', confirming the association between mental life and chest location. He returns to this part of the

[44] Compare a similar strategy at *Loc. Aff.* 3.9 (8.178–79 K.), where *phrenitis* functions again as a pivot or interface between the encephalocentric and the cardio-gastrocentric frames: Galen mentions a gastric co-affection to the brain through the large nerves that run from it to the mouth of the stomach ('for the cavity and the head have a mutual exchange of pathologies', *hē te gar koilia tēi kephalēi kai he kephalē tēi koiliai metadidōsi tōn pathēmatōn*). In such cases, we read in *Comm. Hipp. Acut.* 4.37, 307.5–8 = 15.803 K., 'it will be appropriate to treat the disease by using not a therapy against gastric pains but the therapy appropriate for *phrenitis*, remembering that the stomach suffers through co-affection (*eis sympatheian*) with the brain, while the brain is affected by a pathology which is proper and primary (*kat' idiopatheian kai prōtopatheian*)'.

[45] See above, p. 40. [46] Cf. p. 104. [47] 238.9–239.8 Heeg = 18B.75–77 K.

[48] 238.9–13 Heeg = 18B.76 K.

body later, at *Comm. Hipp. Progn* 1.27, again discussing inflammation and exploring in detail the material state of this part:[49]

> The state of the *hypochondrium*. The *hypochondrium* is best when pain-free and soft and uniform both right and left. If it is inflamed, or painful or taut, or if the right side is different from the left – of all these one must beware. Summing it up in one very brief statement, one could say that the *hypochondrium* that is most like the natural one is best.

After detailing the different indicators, at 1.28 he again refers to the mental significance of a pulsating sign: 'Should there also be pulsation (*sphygmos*) in the *hypochondrium*, it indicates confusion or delirium, but in addition one must look at the eyes of those who are in such a way. For if the eyeballs move frequently, there is the expectation that they will go mad.'[50] Finally, Galen develops the idea that illness of both the *hypochondrium* and the mouth of the stomach is linked to delirium most extensively at *Comm. Hipp. Progn.* 1.28 (245.16–246.10 Heeg = 18B.88–89 K.). He is explaining the crucial importance of the large artery and its state of health, which involves stomach, liver and diaphragm, and notes that the latter is more readily a cause of mental disturbance:

> For the large artery belongs to the principal parts, as do the stomach and the liver, as does the diaphragm as well. At any rate, it is always one of these that is affected, whether it is written 'palpitation' (*palmos*) or 'pulsation' (*sphygmos*), but the diaphragm brings delirium most readily – therefore, they say, it is also called *phrenes* by the ancients – and, not least, also the orifice of the stomach when it is greatly inflamed . . . Hippocrates too therefore rightly said that either confusion or delirium are indicated by the symptom. Confusion is indicated by one contingent attribute common to all the dangerous dispositions, in which it happens that not only the patients but also the doctors are confused, but delirium [is indicated] because of the diaphragm and the orifice of the stomach. One must examine the muscles in the *hypochondrium*. For these do not necessarily bring about delirium or danger when they are throbbing or quivering.[51]

The debate about the localization of *phrenitis*, the rivalry between chest and brain as centres of the pathology, and mental health returns in *Method of Medicine* (*Meth.Med.*) 13.21 (10.928–32 K.), in a passage to which we will return.[52] Here Galen focuses his polemical energies on medical sects which

[49] 243.17–245.6 Heeg = 18B.85–87 K.
[50] 245.7–10 Heeg = 18B.88 K. Restlessness of the eyes traditionally has a mental significance in medical as well as non-technical classical sources.
[51] 245.21–246.10 Heeg = 18B.88–89 K. [52] Above, p. 166.

locate the rational faculties in the chest, but as soon as they notice the signs of *phrenitis* (typically, floccillation), nonetheless apply treatment to the head; in this way, they follow what they have empirically learnt to be effective, and contradict their own doctrinal beliefs, as is also evident through comparison with *lēthargos*.[53] Galen attacks the followers of Thessalus 'who, neither grasping anatomy nor understanding functions or uses, dare to follow me in drenching the head with *oxyrrhodinum* whenever they see someone picking at the blankets or tugging at bits of hair' (*Meth. Med.* 13.21, 10.928 K.). 'Why is [then] the chest not better, if they discover their remedies indicatively, and were it indeed possible for someone to become phrenitic when the heart is affected?'[54] He continues, discussing *lēthargos*: 'There is no one who does not apply the remedies to the head, for this affection is also, in a way, opposite in terms of kind to *phrenitis.* It occurs when the brain, in which the *hēgemonikon* of the soul lies, is affected.' If the humour predominating in the brain is cold, *anaisthēsia* and *akinēsia* follow. 'When the humour is hot, however, there is more normal movement (*eukinēsia*), as one might put it, along with damage to reasoning.' *Phrenitis* and *lēthargos*, as well as *apoplēxies*, torpors and *katalēpsies* (all forms of impaired ability to move and bodily tone), depend on these imbalances in the brain, and as such are cured by making the *hēgemonikon* numb, cooling the overheated brain (*enkephalon*), in the former phrenitic case. 'Applying a preparation of thyme and vinegar (and other ingredients) to the nose, rub the palate and use ptarmics, and apply similarly powerful medications to the head.' In sum: 'As a result, here again *lēthargos* and *phrenitis* lead to a common treatment at the time of their abatement' (*Meth. Med.* 13.21, 10.931–32 K.).[55]

While Aretaeus appears to deal effortlessly with multiple localizations when discussing our disease, and to explain it harmoniously as a form of co-affection occurring with *phrenitis*, Galen's take on this tension often remains conflicted and unresolved; he deals with the problem by throwing the *phrenes* out of the door (via the strong brain-nerve localization) and

[53] As above, in *Loc. Aff.* 3.7 (68.164–68 K.). See Lewis (2018) on Galen's handling of this contradiction and the lack of problematization in this respect in other authors. On treatments to the head for mental disorders, see Devinant (2019) 14–19. For a broader discussion of localization and psychopathology in Galen, see Devinant (2019) 25–32, and at greater length Devinant (2020), esp. 123–36.

[54] The Loeb translation here is mistaken and seriously misleading, attributing the view that 'It is also possible for a person to become phrenitic when the heart is affected' to Galen rather than his opponents.

[55] Cf., again in an anti-cardiocentric frame, *Symp. Caus.* 1.8 (7.143 K.): 'So in the same way those treating madness and *phrenitis* and all forms of insomnia contrary to nature apply remedies to the head.'

letting them back in through the window (the elaboration of a *phrenitis*-like *paraphrosynē* beginning in the diaphragm, as at length in *PHP* and most clearly in *On the Affected Places*, where the chief discussion of *phrenitis* is about the type which affects the superior organ, the brain, in sympathy with the diaphragm, at 5.4 (8.327–32 K.). It is worth noting again the puzzling character of the choice in *On the Affected Places* to mention *phrenitis* only briefly in Book 3.9 (8.177–79 K.), where diseases of the head are found, in the context of humoral causation for *epilēpsia* and similar diseases, and instead to focus on it extensively in Book 5, which is devoted to the chest. This part of *On the Affected Places* became hugely influential in the afterlife of Graeco-Roman medicine, and Galen's choice of how to organize his material played a role in sustaining the involvement of the chest rather than overcoming it decisively even in encephalocentric frames.[56]

Similarly noteworthy are the scattered remarks about the chest and diaphragm as the point of pathological involvement with ailments contiguous or similar to *phrenitis*, as well as Galen's various references to *phrenes* and *diaphragma* in cases of derangement. Here is an example from *Comm. Hipp. Progn.* 1.23 (237–38 Heeg = 18B.73–75 K.):

> Likewise, *it happens also in acute fevers and in inflammation of the lungs*, when the humours in the body rise as vapours to the head, that the clear fluid around the pupil shares in their exhalation. And wherever and in whatever way it is made turbid, the aforesaid images are generated. But in violent headaches, as also in cases of *phrenitis*, because the head becomes full, and some part of the humours reaches the eyes, this causes the same symptoms . . . The dispositions producing such symptoms are fairly grave, with acute fever, and inflammation of the lungs, and headache affecting them because of their intensity, while *phrenitis* does so because of the pre-eminence of the affected part. For the entire category of the latter is fatal, but fevers and inflammation of the lung and headaches are so according to their intensity, as has been said.

Although Galen's encephalocentric commitment is strong, he also feels the need to account for the ambiguities in localization and the competing places of affection for mental disorders in the body, which are so blatant in the medical history of *phren(es)* and *phrenitis*, and more generally in the Hippocratic tradition. Another clue in this sense comes from Galen's

[56] See Chapter 7 pp. 246–51, 261–73, 278–84. on the *Syriac Book of Medicines* and other medieval sources in Latin, Arabic and Hebrew in this regard. Conversely, the *absence* of *phrenitis* from *Symp. Diff.*, in Galen's account of impairments of hegemonic activity (see Singer 2018, 388–89), is also interesting.

differentiation between diseases like '*ophthalmia*, *pleuritis* or *kynanchē* (quinsy/sore throat)', in which 'the sufferer himself is aware of the affected part (*autos ho kamnōn aisthanetai tou peponthotos moriou*)', and diseases in which the *locus* 'comes to recognition through tactile and visual examination (*dia tēs haphēs kai tēs opseōs eis gnōsin hēkei*)'. Galen specifies that 'the same applies to *lēthargos*, *phrenitis*, *epilēpsia*, *paraplēxia*, convulsion and *tetanos*, as well as to what is called *katochē*'. *Phrenitis* is thus explicitly numbered among the subjectively delocalized diseases, namely, diseases 'holistically' experienced by patients which do not *feel* as if they are affecting a precise anatomical location.[57]

In this way, Galen makes a strong argument for theory-based diagnosis and treatment based on a physician's antecedent knowledge, rather than on the patient's feelings:[58] 'In all such cases, the kind of remedy is discovered from the nature of the affection, while the place to which it is particularly necessary to apply the remedy is discovered through *prior knowledge* (*proegnōsthai*) of the functions and uses of that part' (*Meth. Med.* 13.21 (10.932 K.).[59] As we shall see, the element of unawareness or unconsciousness regarding one's own pathology becomes a noticeable trait of *phrenitis* in the ethical and allegorical representation of the disease as well.[60]

Nosology in Theory: *phrenitis* as Case Study in Galen

As we have seen, with localization a key medical theme was embedded in the nosology and clinical discussion of the disease *phrenitis*. A reverse process can also be observed, whereby the importance of the disease is again made evident: the fact that in the first centuries of our era *phrenitis* had definitively become a paradigmatic nosological entity, a classic example. This is shown most perspicuously by Galen, in parallel with the

[57] Compare the inclusion of *phrenitis* among diseases where the inflammation is not evident (as opposed to diseases affecting the eyes, ears, feet and so forth): 'Why should that be surprising in the case of *pleuritis*, *peripneumonia* and *phrenitis* and all the others whose inflammation cannot be observed?' (*Diff. Febr.* 7.394 K.).

[58] To be fair, Galen does not entirely ignore the indications offered by patients' subjective feelings. At *De Crisibus* 3.11 (9.752 K.), in fact, he mentions 'powerful pains in the head and neck, accompanied by spasm and fever' as felt signs, and an idea of 'fullness in the head' is discussed at *Comm. Hipp. Epid. VI* (181.15–20 Wenkebach = 17b.106 K.): 'It is said in the treatise on the *Prorrhetikon* that the heating that arises in these patients can bring about something towards *paraphrosynē* through the filling of the head. This in itself, however, is insufficient as a sign of *paraphrosynē* and especially of phrenitic *paraphrosynē*. For many have reported regarding the filling of the head also at the peak of fevers.'

[59] Phrenitics are again referenced for their lack of awareness of their own bodily experiences at *Comm. Hipp. Prorrh. I*, 30 (43.22–23 Diels = 16.572 K.): 'Since phrenitics are unable to express what they are suffering in words, we engage in [*or* attempt] the prognosis on the basis of our own observations alone.'

[60] See below, pp. 203–09, 215, 292, 314, 339.

development in his medical thinking of a sophisticated theoretical approach to 'disease' as an epistemological challenge.[61]

Galen engages with his medical and philosophical predecessors in intellectually sophisticated and at times disingenuous ways, often exaggerating polemical opposition to the antecedent tradition to affirm his own doctrinal pre-eminence, or instrumentally forging an agreement with idealized authors of the past, in particular Hippocrates. He absorbs the observations of the Hippocratic and later traditions in two fundamental ways in regard to our disease. First, he reshapes traditional ideas according to his encephalocentric and neurological frame, forcing the words of the ancient author's writings into more defined anatomical and physiological models of pathology than are apparent anywhere in the surviving Hippocratic writings. Second, and accordingly, he orders the grid of signs and symptoms presented by the Hippocratic writings, especially clinical cases, according to a logically more rigorous system of definition than was originally offered, scrutinizing the resulting disease semiotics in terms of what we have called 'cogency'.

These two methodological moves, and especially the second, involve the definition of diseases in general. But the example chosen as case study is, at least in a number of central discussions, again *phrenitis*. A fundamental source here is Galen's commentary on the Hippocratic *Prorrhetikon I*, a text he considers spurious and criticizes as wanting on a number of levels, but with which he nonetheless engages in depth on the level of content.[62]

*Semiotics as Problem and the 'Cogency' of Signs: Urine, Expectoration, Chronological Aspects, Troubled Sleep (*agrypnia*), Floccillation or Crocydism*

I have chosen these five topics as examples, although most key signs of *phrenitis* are tested for their validity by Galen.[63]

[61] For surveys of Galen's discussion of *phrenitis*, see generally McDonald (2009), (2014); Murphy (2013); Ahonen (2014) 156–58. The discussion regarding the correct definition of diseases, however, was not exclusively Galenic: the *praefatio* to the first Book of Caelius Aurelianus' *Acute Diseases* on *phrenitis* (22–32 Bendz) focuses precisely on the form and methodology of a sound definition, mostly criticizing Asclepiades (see above, Chapter 3, pp. 80–81). On this topic, Devinant (2020), e.g. 112–22. On Galen and the theoretical problems posed by nosology, Salas (2019); Singer (2020a); Havrda (forthcoming) on Galen and logic.

[62] This is not the occasion to survey the problem of a methodological and logical kind that Galen poses in his commentary on *Prorrhetikon I*, or those occasioned by the text of the *Epidemics*, on which he also wrote commentaries. These belong to Galenic scholarship, and I am instead interested in these texts as works of medical doctrine and reception, as part of the project of reconstructing the disease *phrenitis*.

[63] See Chapter 5, pp. 80–81. on the quality of the voice, tremors and so forth. See Devinant (2020) 175–77 on the Galenic reception of the Hippocratic signs of *phrenitis* and on the problems posed by semiotic discussions.

Urine (and Breathing)

Consider the discussion in Galen's commentary on the Hippocratic *Prorrhetikon I* on an indicator of health that had been traditional since Hippocrates' time: urine.[64] The occasion is the following Hippocratic aphorism:

> Colourless urines in persons with troubled sleeplessness, if they have dark material suspended in them, suggest derangement; in a person who perspires over his whole body, *phrenitis*. (1.4, 13.25–26 Diels = 16.511 K.)

Commenting on this well-known sign, Galen proposes taking *phrenitis* as illustrative of his approach to disease in general, for the purpose of a methodological argument: 'Our argument will base itself on *phrenitis* by way of example, but applies generally to all diseases (*genēsetai d' ho logos hōs epi paradeigmatos tēs phrenitidos, hapantōn nosēmatōn koinos ōn*).' He then sets out to list its signs by 'following a method (*methodōi*)'.[65] Here is the passage in full:[66]

> Since, then, it is our present purpose to discover all the signs of *phrenitis* methodically, we shall begin from the *concept* of the disease (*apo tēs apo tou pathous ennoias*). For it is shown in *De Demonstratione* that the definition of the matter one seeks to inquire into is the best beginning for those who are going to discuss it. And so, since all men call *phrenitis* a state in which they see the *phrenes* damaged, this being the name by which they call the mind and intellect, it is necessary first of all to find out which part of the body the mental/intellectual faculty of the soul (*to phronoun tēs psychēs*) is located in . . . I have already said in the past that the first prognostic signs of its beginning are also those of its full expression. Someone who knows the behaviours/faculties (*erga*) of the brain when it is in its natural state will be able, from its damage, to become aware, in the first place, that it is affected, and second, to find out which affection it is suffering from. These things have been listed by us to be: the voluntary faculty, intellect, sensation and memory (*hē te kata proairesin energeia kai dianoēsis aisthēsis te kai mnēmē*). Damage to any of these shows that the brain is suffering from the affection that could take the form of that damage. The muscles are the immediate instruments of voluntary functions; the damage thus takes place in their functioning through fingers and limbs, in the moving head and neck, and in

[64] *Comm. Hipp. Prorrh. I*, 1.4, 16.29–31 Diels = 16.517–18 K.

[65] Galen also mentions *phrenitis* and 'the phrenitic individual' as exemplary in a polemical discussion of the relationship between general concepts and actual individual cases at *Meth. Med.* 2.7 (10.140–45, 149–54 K.): *phrenitis* is obviously one of his favourite nosological cases in clinical, nosological, physiological and even logical discussions.

[66] *Comm. Hipp. Prorrh. I*, 1.4, 16.32–20.7 Diels = 16.517–24 K. Here and throughout, the translation is my own; cf. Devinant (2020) 179–80 with n. 23 on this passage.

> talking, emitting voice and breathing … To make the distinction clear, I should survey the parts which move together with the thorax. It has been demonstrated, in fact, in *On Dyspnoea* that these too affect breathing. If you find all of these to be without affection, then look at the kind of breathing disturbance and which disposition it can indicate of those in the brain, as, to complete our example, Hippocrates says in his *Prognostikon*: 'Frequent breathing signals a struggle or inflammation in the area above the *phrenes*, while deep breathing at long intervals signals derangement.'[67] He names this respiration at large intervals '*araion*', as I have illustrated in the treatise *Peri Dyspnoea*. *araion* is a *specific* as well as *inseparable* sign of derangement (*idion te hama kai achōriston paraphrosynēs sēmeion*). It is demonstrated in the book of the *Epidemics* that all those who breathe deeply and at long intervals are deranged. If someone therefore can show a sign in the urine, excrement, sputum, vomit, sweat or anywhere else [which] is either *specific* to derangement and derangement alone (*eite idiai monēs tēs paraphrosynēs esti idion*), or is not exclusive to it but still inseparable from it (i.e. necessary) (*ei kai mē monēs, all' achōriston autēs*), it is clear that this should be counted among the phrenitic signs. But if it is impossible to demonstrate this on the basis of the nature of the facts, nor is it possible to show, based on all the *Epidemics*' cases of derangement, that it recurs through all cases of derangement, but only in some of them, then this sign would be illegitimately included among the phrenitic ones, since it is impossible to say more than this: the sign can be observed in *some* phrenitic cases.

For Galen, when one scrutinizes a sign occurring within a disease, it is not enough to notice mere concomitance. To qualify as a diagnostic marker, the sign must be specific (occurring in *phrenitis* alone in a given constellation) and inseparable (necessary, i.e. always occurring in *phrenitis*). He goes on to challenge another sign, this time gastric:

> And so, take the case of phrenitic patients we have visited, some of whom suffer blockage in the belly, while others passed more than is the right amount by nature. Someone wrote that gastric blockage is also among the phrenitic signs, and then someone else judged that some people are phrenitic if their stomach has blockage; for when someone writes precipitously *in the definition/judgement* that a blocked belly is phrenitic, it would be possible for another who is also precipitous to abandon any reason (*mē martyrein tōi logōi*) and define as phrenitics, say, those whose stomach he has observed to be suffering from diarrhoea instead.[68]

[67] Quoted again at *Comm. Hipp. Epid. VI*, 2.11 (74.1–4 Wenkebach = 17A.918 K.).

[68] For external testimony in this sense, cf. Severus Iatrosophista, *De instrumentis infusoriis seu clysteribus ad Timotheum* (second–fourth centuries CE): 'It (*sc*. blockage in the stomach) not only

Incompetence in the logic of formulating definitions can thus have absurd consequences – one person might see a sign, constipation, as phrenitic, and another person as its opposite. Going back to urine:

> But we should go back with the discussion to our beginning, in the words in which the author has put it: 'Colourless urines in troubled states of troubled sleep (*agrypnia*), which have a black floating suspension and in the context of sweating, are phrenitic.' He is here talking about the (signs) specific to and inseparable from *phrenitis* (*tōn men idiōn te kai achōristōn phrenitidos*) when he uses the phrase 'in troubled states of troubled sleep (*agrypnia*)'. But they are not inseparably specific to it *alone* (*d' out' achōristōn oute monēs autēs idiōn*), since he adds 'in sweating', although the sweating, when it takes the affected place, can prove the points made above.

As said, the sign is strengthened by being combined with other circumstances. In addition, the competent doctor must consider overarching, more abstract categories of diagnosis, such as damage to the core faculty, and their 'holistic' markers, such as the pulse:

> Indeed, as we first approach a patient, it is convenient first to find out if he is severely ill through damage to one of the three principles, or two, or all; or if none of the principles is affected, but instead one of those which are generated from it or somehow concomitant with it. And so, if you inspect the urine in states of *agrypnia*, and no bad sign appears in it, nor even in the pulse – for it is necessary that, for the sake of the most exact diagnosis, this sign too should be added – this man can nonetheless be phrenitic, since he displays these signs of *phrenitis*, and he is at risk, since the core activities (*energeiai*) of the remaining two have remained unharmed in him.

This long quote serves an important purpose in this discussion: it shows the level of theoretical elaboration of diagnostics in Galen's time, and confirms how rich and important *phrenitis* was as a medical construct for him and his audience. It is in fact to precisely this disease that Galen turns again and again to lend concrete form to his doctrinal statements.

Expectoration

Among bodily products, expectoration traditionally occupied a special place in *phrenitis*. As a symptom, it is prominently associated with the

destroys the physical faculties through the intertwinement of diseases, but also inflicts damage on the very hegemonic faculties of the soul, determines *karos* and *kataphora*, readily generates derangement and *phrenitis*, makes memory obtuse and dulls the intellect. Moreover, it is harmful to all sense perceptions. For it impedes sight and makes it hazy, and it also dulls hearing.' On the edition of this text, see Roselli (2003).

chest and chest affections, and it offers a wonderful illustration of how Galen appropriates Hippocratic evidence and empirical data to the purposes of his own representation of human physiology. In general, this topic clearly conveys the image of upward movement that characterizes the evolving anatomies in the history of (Western) human biology – the shift of the centre of cognitively active life from the belly and chest upwards towards the head, with a largely consistent trajectory (if one not without interruptions and divergences).

One would expect Galen's position on *phrenitis* as definitely located in the brain to be to dismiss the sign of expectoration with reference to our disease. In fact, he devotes his initial energies to the usual dismantling of the supposed power of the sign, and here with particular intensity. An initial relevant lemma is discussed at *Comm. Hipp. Prorrh. I*, 1.6:[69]

> Frequent coughing (*anachrempsis pyknē*), *if another sign is added to it*, is phrenitic.

This sign is clearly not exclusive to any disease, Galen explains, but is an expression of a defective or excessive voluntary (*proairetikos*) activity. He writes:

> It would have been better to add to these words the sentence 'when no sputum comes out through it'. For if something were to be expelled, then [we would have to remind ourselves that] this [coughing] typically occurs, as is the case sometimes in forms of catarrh, because of what flows into the mouth through the channels that run to the nose. It can also happen at times because of the forcefulness of the breath coming in, since this flowing matter becomes plastered to the passages of the channel or plugged up, so that a frequent coughing derives from it.

The sign of coughing, first of all, would need to be qualified, not simply dismissed as a typical sign of what we would call the presence of mucus in the airways. Galen then continues with the theoretical point:

> But, as I have said before with respect to negligent and simplistic interpretations offered without the necessary distinctions, one must remember that all the things mentioned are said with the exclusion of external causes. For this reason, the sputum, being one of the voluntary (*proairetikos*) actions, becomes frequent when there is damage in the *logistikon*, like any other of the voluntary faculties, just as in the case of some who pass wind loudly [when ill], whereas they would take the utmost care [to avoid this] when not prey to the disease, especially if anyone could hear them. Others move their

[69] 21.19–22.26 Diels = 16.527–29 K.

> hands or limbs without reason, or likewise do or say something [inappropriate]. *Among other proairetic activities in excess or defect compared to the common standard, coughing is also a sign among the phrenitic ones.*

Again, the point is that coughing is too general and 'weak' a sign to be relevant on its own:

> It was well put, as far as coughing is concerned, to say 'if there is another sign accompanying it'; for having little strength in itself, this sign necessitates additional proofs. Sometimes, since frequent coughing also happens because of the sticky sputum getting clogged in the passages that go from the nose to the mouth, it is quite possible that, for some of those who are about to become phrenitic, [this] should be caused by the disposition of the brain, which is dry and hot. And so, what was said at the end of the discussion to be not 'singularly'/'univocally' phrenitic, but 'plurally' phrenitic *(ouch henikōs phrenitikon, alla plēthyntikōs phrenitika)* can on the whole be referred either to the signs or to the disease; to [refer it to] both would make the statement absurd.

This discussion is enlightening in many ways. First, for the theoretical point of the constellation of signs, which corroborate each other; second, for the productivity of *phrenitis* as an example of these theoretical discussions; and third and most interesting, for the submission of a bodily sign – here expectoration, coughing – to an ideological project: the centring of the brain in Galenic physiology and in his account of *phrenitis* as a disease heavily impacting the faculties of the *hēgemonikon*, the seat of mental life, located in the brain.

A similar 'encephalization' of the (phrenitic) symptom is at work in Galen's interpretation of the 'dripping nose' (perhaps, like coughing, another sign that could have been associated simply with a cold, and thus with winter diseases?) in the following Hippocratic lemma: 'A runny nose ... is a fatal sign, especially if it begins on the fourth day.'[70] This happens in patients who 'have been comatose at the beginning, but later lie awake with pains in the head, loins, *hypochondrium* and neck', and who seem exposed to developing *phrenitis*. Here too Galen's interpretation places the cause in the brain being overflooded with bile or blood; many comparable examples could be cited.[71]

[70] *Comm. Hipp. Prorrh. I*, 1.1, 4.1–9.6 Diels = 16.491–501 K.

[71] See likewise *Comm. Hipp. Prorrh. I*, 1.30, 43.4–30 Diels (16.571–73 K.) on black, bile-tainted sputum in dry diseases like *phrenitis*.

Chronological Aspects

Cogency, in the sense of strength and validity, as we have defined it, is not the only aspect in which signs may differ from one another. Chronological precedence must also be considered: at least in some cases, signs are related to specific phases of the disease, and their continuous or intermittent quality is also fundamental.[72] Galen accordingly comments that alteration of the pulse is the only sign that can be seen from the beginning of the illness, while others arise later, when it is full blown. Signs, he explains, are like plants to the expert farmer: he alone can recognize them from their first sprout, while someone else would be unable to tell them apart until much later.[73]

For this discussion, Galen says again, 'it is appropriate to explore the concept of *phrenitis* (*zētēteon esti peri tēs kata tēn phrenitin ennoias*)'. He now emphasizes duration, starting from the Hippocratic definition of the disease as a 'continuous state of delirium with acute fever'. In fact, fever is here the differential tool for distinguishing a simple *paraphrosynē*, in which patients can be mad (*mainēsthai*) without fever, on the one hand, from *phrenitis*, on the other. Even in cases of madness accompanied by fever, Galen explains, some define this state through general terms such as *parakopsai*, *parachthēnai*, *paralērēsai* and *paraphronēsai*, but still refrain from using the term *phrenitis* 'unless there is fever and continuous delirium'. In addition, he says, 'we equally define as phrenitic those who, when they are comatose, are not in their right mind, but talk nonsense and appear to be alienated from the things present and similar to stupefied persons' (5.10–12 Diels = 16.493 K.).[74]

Pace is also an important variable. At *Loc. Aff.* 5.4 (8.330 K.), Galen insists that the mental symptoms of *phrenitis* do not arise suddenly, but – in the 'idiopathic'/'primary' version of the disease (*kat' idiopatheian te kai prōtopatheian*) – instead accumulate gradually.[75] He writes: 'This affection forms gradually (*kata brachy*), and the delirium does not arise suddenly (*exaiphnēs*) nor all at once (*athrōs*).' A similar point is made at *Comm. Hipp. Prorrh. I* (47.22–26 Diels = 16.581 K.), where the phrenitic state of delirium is described as long-lasting and gradually increasing, similar to the gradual drenching of a piece of cloth with dye. 'The same thing happens to the brain as to fabrics when they are coloured: they do not absorb the dye

[72] On time in medicine, see Coughlin, 'Pneumatists on Time, the Body, and Vitality', unpublished paper; cf. also Coughlin (forthcoming a) on Athenaeus' reflections about time and health; Singer (2022) 102–22.

[73] The full passage is at *Comm. Hipp. Prorrh.* 4 Diels (16.492 K.).

[74] On this passage, see Devinant (2020) 110–11.

[75] On pace and disease description in this passage, see Devinant (2020) 249–51.

straightaway, but at the beginning they maintain their own quality. So this inflammation, like a dyeing of the brain, ends up provoking a state of continuous derangement (*paraphrosynēn hektikēn*)'.

The chronology of diseases, finally, also has to do with recurring patterns, almost a fixed schedule a doctor can recognize. At *Comm. Hipp. Prorrh. I,* 1.1 (7.15–22 Diels = 16.497–98 K.), discussing 'troubled sleep' (*agrypneō*) in patients who are 'comatose' (*kōmatōdees*) since the beginning as a possible indicator of *phrenitis*, Galen considers the temporality of diseases. He does so in various senses: the continuity and duration of *paraphrosynē*; which signs arise at the beginning; which are characteristic of the end; and so forth. All these patterns signal a mature idea of nosology; for us, the fact that Galen takes the finest details of its manifestations to illustrate how 'a disease can be divided into four parts: beginning, rise, peak and decrease' (*eis tessara merē dielontes auton eipōmen ex archēs te kai anabaseōs akmēs te kai parakmēs synkeisthai*)[76] confirms the centrality of *phrenitis.*

Agrypnia *(Troubled Sleep or Insomnia)*

Continuous fever has now emerged as the first differential element, necessary (although insufficient) to the definition of *phrenitis*. Second is comatose sleeplessness: since 'in these [patients] it is typical in most cases to keep the eyelid open and have trouble sleeping, most physicians have also included this form of troubled sleep/insomnia, *agrypnia* (ἀγρυπνία)', in the pathognomy of *phrenitis* (*Comm. Hipp. Prorrh. I*, 1, 5.18–20 Diels = 16.494 K.). Galen is commenting here on the following Hippocratic question: 'Do patients who have been comatose at the beginning, but later lie awake with pains in the head, loins, *hypochondrium* and neck, develop *phrenitis*? A runny nose in these is a fatal sign, especially if it begins on the fourth day.'

This aphorism gives Galen another chance for theoretical discussion of the notion of a 'sign' of a specific 'disease' in general, and for probing the very concept of semiotic validity. In the case of *phrenitis*, a central sign, in his eyes, is precisely this characteristic state of sleep disturbance covering various degrees of insomniac distress and comatose wakefulness, with oppression and torpor; already in the Hippocratic texts, this was called *agrypnia*.[77] For

[76] *Comm. Hipp. Prorrh.* 1, 1 (7.20–22 Diels = 16.498 K.).

[77] A term best left untranslated: see Thumiger (2017) 176–82 for this and related terms in Hippocratic medicine. On *agrypnia*, see also *Comm. Hipp. Prorrh. I*, 6 (22.14–16 Diels = 16.528 K.): 'Disturbed sleep (*agrypnia*), and most of all the disturbed sleep of the distressed type . . . this is specific to the phrenitics (*hautē gar idios tōn phrenitikōn*). It is disturbed sleep of the distressed type, as I said, if

Galen, a comatose state on its own, without 'sleepless *agrypnia*', is not at all phrenitic. But *agrypnia* without *kōma is* necessarily so, when it arises at the beginning; and the combination of the two remains diagnostically ambiguous. In sum, here too Galen concentrates on necessity, exclusivity and sufficiency as features of a sign's cogency. Its strength is proportional to its being indispensable or unavoidable in that disease, and in its being also specific to it, sufficient to diagnose its presence.

Galen also reflects on the temporal variables of possible combinations of signs, when they arise, how long they last, and whether they recur, as well as on the combination and accumulation of signs as corroborative of such cogency. All these are also in play in modern disease taxonomies and symptom checkers used in clinical environments; for our inquiry, the fact that Galen explores *phrenitis* at such length in this respect testifies again to his strong conceptualization of the disease. Within this discussion, being able to exclude external causes by means of a chronology-conscious attention also allows a doctor to attribute the illness to an internal state, to qualify it as endogenous. By way of summary, Galen writes as follows at *Comm. Hipp. Prorrh. I*, 1.1 (6.20–7.11 Diels = 16.496–97 K.):

> If someone, after a sustained march or exhausted by some other exercise or heated during these at the same time, begins to have fever, and his head, back, *hypochondria* and neck begin to hurt, you should expect none of these to indicate a strong sign for future or existing illnesses to you. But if, without external causes, the above-mentioned parts should hurt; if there should be *agrypnia* in the patient with no sense of oppression; then expect him to become deranged. If this occurred with a comatose state, then conclude that he will remain in the present state for one day, in which you will be able to diagnose the development of the disease. For *phrenitis* that is pure and unmixed with another disease (*phrenitis men gar hē akribēs kai amiktos heterōi nosēmati*) originates in the yellow bile as it overflows in the part in which the hegemonic part of the soul resides [the brain], while *lēthargos* arises when phlegm moistens and soaks that same part, because damage capable of involving the brain by sympathy due to bile and phlegm lacks a continuous character. Whenever it happens that the brain is oppressed by both humours (i.e. both yellow bile and phlegm), contradictory symptoms befall the man, such as insomnia (*agrypnia*) and a short-lived sense of oppression. If he is oppressed and deranged all in one, one must think that he will remain in this mixed condition. In case he shifted in the other direction, as bile and phlegm prevail in turn, the man becomes 'purely' (*akribē*) phrenitic or 'purely' lethargic. When the patient remains in

during the images perceived/hallucinations they shout and jump up and barely recognize familiar people.'

https://doi.org/10.1017/9781009241311.004 Published online by Cambridge University Press

> a condition of both derangement and a comatose state up to the end, I for one define this disease as a combination of *lēthargos* and *phrenitis* (*mikton onomazō touto to pathos phrenitidos te kai lēthargou*). Some call it *typhōmania*.

There is thus a strong sign for *phrenitis*, which is *agrypnia*. But also, pragmatically recognized, there are mixed, less 'pure' forms that Galen identifies here with a combination with *lēthargos* as far as the symptom of sleep is concerned. This subdivision into different kinds constitutes an important chapter in the history of *phrenitis* as a disease concept, especially in the Middle Ages and the early-modern period, but also in modern times.[78] This fragmentation allows the notion of the disease to adapt to a plurality of new clinical observations and physiological projects.[79] For now, it suffices to locate the beginning of this taxonomic multiplication in Galen; no such elaboration of 'versions' of diseases is found in Hippocratic nosology, where the labels are insufficiently precise to make such a move necessary or even possible.

Floccillation or Crocydism

Our final instance of the semiotics of *phrenitis* is the commentary on the lemma concerning floccillation/crocydism (*Comm. Hipp. Prorrh. I*, 1.33). Floccillation functions almost as a symbol of *phrenitis*, as one of the most perspicuous behavioural aspects qualifying these patients. The sign was described by the Hippocratics as well,[80] and it is especially instructive to observe Galen's move in framing this detail as part of his overall doctrine on *phrenitis*, in which he associates it with the 'comatose oppression' he recognizes as characteristic.

Let us consider the Hippocratic text and Galen's subsequent commentary:[81]

> *Hai tromōdees, asaphees, psēlaphōdees, parakrousies pany phrenitikai, hōs kai tōi Didymarchōi en Kōi.*
>
> Forms of derangement that involve tremors, confusion and floccillation point most definitively towards *phrenitis*, as in the case of Didymarchos in Cos.

Galen's comment:

> Often this kind of *paraphrosynē* also arises, in which the patient lies down calmly, without screaming wildly or springing up, as above – indeed

[78] See below, pp. 346–47, 363–65. [79] See Chapters 6 and 8. [80] See above, pp. 27, 38.
[81] 46.1–21 Diels = 16.578–89 K.

> without speaking at all – or abandoning his or her prone position. These behaviours often suggest to members of the family that, if only there was some silence, the patient would fall asleep. So the watchers close the doors and take a rest. Matters being this way, a long time sometimes passes, and once the family grows frustrated with the patient's lack of talk or movement, and they go to check if the person is sleeping, it appears that he is not and that he is moving his hands without tremors, similar to those who want to touch or find something and gently grope about. Once they are in this state, some behave this way, keeping their eyelids closed shut, and if someone goes to them and says something, some do not even open their eyes; others open them, but soon afterward close them again and keep them still; others do not lift their eyelids, even if someone shouts at them or pricks them. Therefore, regarding such phrenitics Hippocrates writes as follows in the *Epidemics*: 'None of the phrenitics was manic like the others, but they perished overwhelmed by a narcotic oppression.'

The special importance of this sign for Galen is in its indication of a non-aggressive, comatose kind of *paraphrosynē*.

> [Hippocrates] calls phrenitics of this type 'unclear' (*asapheis*) in the present text, as if they were difficult for many observers to recognize – not only for non-specialists, but also for doctors. For they think that phrenitics are only those who scream and jump up, whereas in fact Hippocrates refers to individuals damaged in the *phrenes* thus (i.e. as phrenitics), although for the entire time they are in a state of *kataphora*. Sometimes, in fact, from the start a state of *paraphrosynē* can be observed in them while they are in a comatose state. My essay *De Comate in Hippocrate* makes it clear that he refers to the same state by both terms, *kataphora* and *kōma*. But this kind of *phrenitis* does not have the element of unclarity which is associated with the resting state; the unclear kind of *phrenitis*, as we were just saying, originates in the passage of time, and all those I have seen affected this way had a weak, hard, narrow and short pulse, so that it shows that the state of rest in them comes from the exhaustion of their vital power (*dynamis*), as they cannot make powerful movements. Some of them, just as they move their hands weakly, also speak very little; this escapes the notice of most and is perspicuous only to those who, being closer, can bend down to them. Some try to place their ear closer to their face to hear better what they say. But the movement of their hands too, being minimal and trembling, escapes the notice of many and only appears to those who observe most intently. And so this is a proof that their vital power is ill.

Galen's investment in the details of the cases he inherits from Hippocratic clinical observations is especially evident in this case. His discussion of the individual phenomenon – the hand movement – and its physiological and cognitive motivation reveals a level of logical-philosophical scrutiny and

theoretical reflection that is unprecedented in the nosological material preserved for us.

Retrospectively Diagnosing phrenitis

Galen's opportunistic attitude towards Hippocratic clinical material is reflected in the reinterpretation, elaboration and novel framing of a received sign in the case of floccillation just discussed. But it is also found on several occasions when Galen scrutinizes the signs described by his predecessors and finds them lacking validity because they are common to several diseases and the like, as seen in the previous examples.[82] These are all instances of 'retrospective diagnosis', a practice usually stigmatized by historians of medicine and one that Galen carries out somewhat recklessly in an attempt to bring nosological order – the order of his own medical system – to the magmatic data offered by the Hippocratic texts.[83]

Another example of this is found at *Comm. Hipp. Epid. III*, 2.13,[84] where Galen refers explicitly to a phrenitic case, the wife of Hiketes. The woman is feverish, comatose, has trouble sleeping and has a heavy head. She sweats, cannot sleep and suffers from fears and a low mood; her right eye has a squint; she speaks deliriously at intervals and has no thirst; and she dies on the seventh day. Galen identifies her as suffering from *phrenitis* and writes: 'It was clear that the person was phrenitic and that, besides, she was quite badly off (*phrenitikēn te ēdē tēn anthrōpon edēlōsen einai kai pros toutōi mochthērōs echein pany*)';[85] he confidently relies on the head-centred symptoms and the general psychopathological picture to make what is, for him, a clear diagnosis (*edēlōsen*).

Elsewhere Galen focuses on fever as a discriminating sign when *mania* and *phrenitis* are compared. This is an interesting choice, although an anachronistic one (we might say, with our own anachronism), because under no circumstances is *mania* treated in the Hippocratic texts as a nosological entity, a 'disease' proper that can constitute a categorical alternative to *phrenitis*: in the classical sources, it remains a state of things, like 'constipation', 'thirst' or 'delirium'.[86] For Galen, who operates in a context in which *mania* is already inserted as an item in nosological

[82] On the cogency of signs, see also *Comm. Hipp. Epid. III*, 1.6 (31.18–22 Wenkebach = 17A.532–33 K.), where the specific signs of *phrenitis* (*ta tēs phrenitidos idia sēmeia*) are again singled out.

[83] On this aspect of Galen's medical project, see Devinant (2020) 177–78: 'the reception of the repertoire of Hippocratic symptoms in Galen, and the way in which he reorganizes the content' (my translation).

[84] 100.18–104.21 Wenkebach = 17A.634–41 K. [85] 102.20–22 Wenkebach = 17A.638 K.

[86] See Thumiger (2013) 61–70.

lists as a form of derangement without fever,[87] *mania* is instead a condition fit to be compared with *phrenitis*. As he discusses the Hippocratic statement 'None of the phrenitic became manic, as in the other cases, but they perished oppressed by another form of bad heaviness and stupor',[88] Galen imposes the precision and standards of the nosology of his own time on the older material:

> If, instead of saying at the beginning 'No one of the phrenitic became manic', he had simply said 'They perished oppressed by another form of bad heaviness and stupor', it would have been plausible to interpret this as a change into *lēthargos* coming upon them so as to destroy them. But since he says at the start 'No one was manic', it is more probable that they perished with oppression, remaining phrenitic, namely deranged. For we understand that the discriminating fact consists only in this, and that in no other respect than fever does *phrenitis* differ from *mania*. Both are in fact damage to the mind (*phrenōn*), but it is proper to the manic to be without fever, and to phrenitics to have fever. One should not be surprised, then, that when uncocted humours collect in the body, as the evacuations demonstrate, the patients are at the same time comatose and deranged: comatose out of the abundance and coldness of the uncocted humours, and deranged because as (the humours) putrefy, they produce acridity and heat. (*Comm. Hipp. Epid. III*, 3.46, 138.16–139.5 Wenkebach = 17A.698–99 K.)

At *Comm. Hipp. Epid. III*, 3.79 (173.5–174.14 Wenkebach = 17A.759–62 K.), Galen deals instead with a case in which the diagnosis of *phrenitis* is already given by the original Hippocratic lemma. Here not fever but the intoxicating humour is the pivot of his interpretation. The Hippocratic text: 'The fourth patient. The phrenitic man on the first day that he took to bed vomited a great deal of thin matter the colour of verdigris (*tetartos arrōstos. ho phrenitikos tēi prōthi kataklineis ēmesen iōdea, polla, lepta*).' Galen interprets this case as especially acute, but specifies that its apparent onset should not be misinterpreted. It is a case of slow and gradual intoxication reaching a tipping point – another remark on the chronology of diseases:

> This case is illustrative of acute *phrenitis*, arising on the first day immediately with the fever. Indeed, all those we have seen to be phrenitic in this way died by the seventh day. Very few, indeed extremely rare cases survived. The nature of such illnesses is amazing, the way in which it suddenly seizes patients who were perfectly healthy. For it is not the case that the onset of them, or the cause of the onset itself, is so sudden, as when a man consumes a lethal substance or a dangerous beast bites him, but little by little somehow

[87] One example standing for all: the *furor* of Celsus, on which see Chapter 3.
[88] *Epid.* 3,6 (85.3–5 Jouanna = 3.82 L.).

> the causes of these illnesses grow in the body, as happens with those who have been bitten by a rabid dog. For it is clear that also in those cases, the poison of the dog does not remain idle, nor is it inactive. Still, it does not offer any clue, sometimes for many months; then suddenly, when they see water, they are seized by fear and quickly destroyed. For a long time, the cause that produces rabies grows; when it finally reaches the point, it brings a quick death. Likewise, in the above-mentioned case of *phrenitis*, a malignant (*mochthēros*) humour accumulates gradually in the body, similar to a lethal poison, gradually acting on the neighbouring parts. When in some way the humour has reached the highest level of malignity, then the mortal symptom appears. For also in the case of this phrenitic person it happens straightaway at the beginning that he 'vomited thin matter the colour of verdigris', which follows the much ardent fever. Just as some die out of fatal poisoning on the second or third day, due to the quality of these substances, not to their quantity as causing death, so also in this case one must think that death came directly on the third day due to the quality of the verdigris vomit, not due to the *phrenitis* as destructive cause, and the *phrenitis* followed it as symptom/accident ... In this way, Hippocrates seems to have placed before our eyes a particularly quick mortal case.[89]

Elsewhere the retrospective diagnosis is implicit. At *Comm. Hipp. Epid. III*, 1.4, for example, Galen speaks of a patient in the Hippocratic lemma, saying that he 'did not *behave phrenitically* during his episodes of troubled insomnia (*out' ep' agrypniais tarachōdesin ephrenitisen*)'.[90] What does 'to behave phrenitically', *phrenizitein* (φρενιτίζειν), mean? Here it appears to indicate an ensemble of typical behaviours that Galen contrasts with the stronger indicator (for him) of the disease, *agrypnia*. We are thus made to think that the overall patient portrayal is significant and has a cogency that can be independent of individual indicators: he has trouble sleeping, but this is *not* phrenitic in quality.

What such an overall phrenitic portrayal might have entailed, can be gathered from the discussion of another Hippocratic case, regarding which Galen claims that 'from the beginning she appears to be phrenitic (*ex archēs hautē phainetai phrenitikē genomenē*)'. 'She' is the wife of Dealkes of Thasos, who 'suffered from fever and shivering coming out of a grief (*pyretos phrikōdēs ek lypēs elabe*)', a patient for whom the Hippocratic text did not offer a diagnosis of *phrenitis* (*Comm. Hipp. Epid. III*, 1.6, 184.14–186.7 Wenkebach = 17A.786–89 K.).[91] Subsequently, among other things,

[89] Cf. *Comm. Hipp. Epid. III*, 3.35 (132.23–24 Wenkebach = 17A.687 K.) on an accumulation of (toxic) moisture in the head causing severe *agrypnia*, *paraphrosynē* and *phrenitis*.

[90] 15.13 Wenkebach = 17A.504 K.

[91] This is one of the texts marked with the sign [φ] or [φρενῖτις], a later addition known to Galen as well to be spurious: see C*omm. Hipp. Epid. III*, 2.5 (81.23–83.13 Wenkebach = 17A.610–13 K.); 2.14 (104.22–

the woman wraps herself up in her covers; moves her hands compulsively, picks at her hair and gropes; cries and laughs; remembers little; produces scanty, thin urine; and is delirious at intervals, then falls silent. Most of these are typical signs of mental patients in the Hippocratics. But Galen – who, as we have seen, dismisses white urine, the only concrete phrenitic sign in the Hippocratics, as insufficient[92] – seems in this case to recognize the ensemble of manifestations as forceful enough to diagnose the disease. And although he knows that the diagnosis did not originally belong to the text, he adds: 'Such cases of *phrenitis* are, as I said before, most serious, and whomever they take, they quickly destroy' (184.18–20 Wenkebach = 17A.787 K.). Galen also comments on the quality of the patient's derangement: 'It seems that the form of this derangement was a combination of the melancholic and the phrenitic. For much talking alternating with silence demonstrates such a combination.' Finally, he returns to the topic at the very end: '[Hippocrates] also says this, that she wraps herself up and there is much talking and silence through to the end. For much talking is a phrenitic trait, the silence is melancholic, and wrapping oneself up belongs to both, except when patients cover themselves because of the cold' (186.3–6 Wenkebach = 17A.789 K.).

The acknowledgement of a 'portrait' or profile, a comprehensive picture, so to speak, alongside the strong indicators for diagnosis is not as arbitrary as it might appear at first, nor does Galen leave this to intuition or improvisation. The emerging definition of the disease is thus syndromic, characterized by the repertoire of elements we have sampled – those which are strongly indicative, but also the concurring secondary aspects, all held together by the larger frame of the brain-centred and humoral accounts, and by the competent, experienced understanding of the physician.[93]

This syndromic, composite quality of the diagnosis is formulated clearly in Galen's own words at *Comm. Hipp. Prorrh. I*, 1.15,[94] where he mentions two key signs for the prognosis of *phrenitis*: delirium and a fever that stops and then starts again, accompanied by sweating. Notwithstanding the weight of these two indicators, Galen adds, the prediction (*prorrhēsis*) does not offer complete certainty but only a high likelihood. (It turns

105.4 Wenkebach = 17A.641 K.); cf. the Appendix to Kühlewein's edition of the Hippocratic text (246–47); above, Chapter 2, p. 24, 49–50.

[92] See above, pp. 112–14.

[93] Devinant (2020) 170 n. 5 uses the expression 'réalisme naturel' (natural realism) to describe Galen's project in his non-schematic approach to the definition of diseases, especially with reference to *phrenitis*.

[94] 32.20–23 Diels = 16.549 K.

out correct *to pleistakis*, 'most often'.) The numerical aspect of correct prediction is even more in evidence later: 'For in predictions we want most of all, if possible, to hit the mark always, so that if someone misses the mark eight times and hits it twice, he is worse than a layman.'[95]

This syndromic, combinatory strategy is highly efficient and holds sway for a long time. In the fifth century CE (although without reference to Galen), Caelius Aurelianus writes:

> We recognize *phrenitis* from the complete combination of signs (*ex toto signorum concursu*). For any single sign, such as mental derangement or fever, does not indicate *phrenitis*, but the case is otherwise if many signs concur which together can indicate only this disease. In this case, an indication is obtained, as we have said, from many circumstances (*ex multis*) and constitutes a single sign indicative of the situation. We therefore recognize *phrenitis*, as I said, from the combination of acute fever, mental derangement, weak and rapid pulse, and the plucking of straws and hairs. For it is on the basis of these that the kind of disease (*passionis genus*) is recognized. (*Acute Diseases* 1.3, 40.15–22 Bendz)

The Aetiology of phrenitis

The final, central theoretical topic in nosological literature is aetiology: the question of the *causes* of a disease, something classical medicine did not focus on so clearly, privileging instead descriptive and clinical aspects. By contrast, cause, *aitia*, is an important object of debate in the medicine of the imperial period, in nosological treatises as much as in Galen. Aretaeus' chapter on the causes and symptoms of *phrenitis* is unfortunately lost, and the chapter on therapy does not indicate a specific cause of *phrenitis* beyond its localization in the diaphragm or heart, but also the head and *neura*. But Galen thematizes the question of the aetiology of *phrenitis* from various perspectives, mostly humoral and encephalic (involving membranes and nerves). At *On the Causes of Symptoms* (*Symp. Caus.*) 2.7 (7.202 K.) he writes:

> The kinds of delirium (*paraphrosynai*) which are defective movements of the authoritative capacity (*tēs hēgemonikēs dynameōs*) arise on the basis of abnormal humours or through a lack of balance (*dyskrasia*) of humours in the brain. *Phrenitis* is what they are called when accompanied by fevers, *mania* when they are without these. Sometimes they follow mordant and hot

[95] 54.24–26 Heeg = 16.594–95 K., quoted and commented on by Salazar (*Comm. Hipp. Progn.* 3.1, n. 80).

> humours, the kind that are of yellow bile particularly, although they often arise in a *dyskrasia* of the brain itself tending towards more heat. The melancholic derangements alone have a colder humour as a cause; for *phrenitis* does not simply arise on the basis of hot humours (*oud' haplōs epi thermois synistatai chymois*), but is brought about along with the production of inflammation involving the brain and the meninges (*meta tou phlegmonēn ergazesthai kata te ton enkephalon kai tas meningas*).

A combination of circumstances, then, can also be responsible for *phrenitis* under the more general heading of 'inflammation', *phlegmonē*. The key active agent in this inflammatory balance is identified in particular in 'mordent' humours, yellow bile most of all. The effect of an excess of these acrid fluids in the head can be either *phrenitis* or *lēthargos*, or a mixture of the two. At *Com*. 4.3 (193.11–17 Mewaldt = 7.664 K.) Galen compares the effects of drunkenness causing the head to 'fill up' (*plērōtheisēs autōn en tēi methēi tēs kephalēs*, 193.8–9 Mewaldt) to those of the uncocted fluid in the prodromic phases of *phrenitis*:

> As plenty of uncocted fluid reaches the head, [patients] become at the same time insomniac (*agrypnoi*) and comatose. And this happens at the beginning, when (the fluid) is concocted in large quantities, as if this were happening through [the effect of] wine (but neither *lēthargos* nor *phrenitis* results in such a case); it is when (the fluid) turns acrid that it ends in *phrenitis*. For in many cases it is evacuated when it is still thinner, concocted or digested, but it remains there when it is of the thicker kind, and then *lēthargos* arises. When a disease progresses to such a state, as we have demonstrated, then it is near *phrenitis*, as in the opinion of those who introduce the notion of a mixed disease between *lēthargos* and *phrenitis*, and it will appear most similar to it [*lēthargos*]. Whether those who are in this state should be defined as phrenitic, however, or one should expect them to become so shortly afterward, is a matter of different consideration, which is of no use for what we are proposing now.

And elsewhere: 'Yellow bile (*xanthē cholē*) rising to the head and settling (*stērichtheisa*) in the brain and meninges generates *phrenitis*' (whereas in other body parts it engenders other pathologies).[96] Elsewhere, at *Loc. Aff.* 3.9 Galen differentiates between two kinds of *phrenitis*, one caused by yellow bile, the second, which is milder, by ochre bile: 'There is a more moderate kind of *phrenitis*, which originates in ochre bile. But another is more serious, originating in yellow bile' (8.178 K.).[97]

[96] *Comm. Hipp. Epid. I.* 2.75 (88.26–89.3 Wenkebach = 17A.175–76 K.). Cf. *Comm. Hipp. Epid. III*, 1.6 (32.21–24 Wenkebach = 17A.534 K.) 'The nature of this fact demonstrated that humours dry in mixture and biting in quality, as they rise to the brain, cause both *agrypnia* and *phrenitis* (*eis enkephalon anenechthentas aitious agrypnias te kai phrenitidos gignesthai*)'.

[97] On humoral causation of various kinds and *phrenitis*, see also Devinant (2020) 205–29.

Blood can also be a vehicle in humoral causation: 'After all, when the blood is carrying either black or yellow bile, being resolved into nasty vapours, it leads in the former case to *melancholia*, in the latter to *phrenitis*', as written in *On the Use of Breathing* (*De Usu Respirationis* 5, 4.506–07 K. 126.18–128.7 Furley–Wilkie).

At *Caus. Puls.* 4.14 (9.185 K.), a humoral causation is combined with localization in the brain and a mention of the diaphragm in the context of a discussion of the pulse. In this case, the focus is on this key symptom, the pulse, as opposed to an anatomical *locus affectus*:

> Here it is not at all difficult to find out the causes of what we have said for someone who knows how *phrenitis* originates in the bilious humour, just as *lēthargos* originates in the phlegmatic humour, but who also knows that *lēthargos* has its origin more in the brain itself (*kata men auton ton enkephalon*), and *phrenitis* mostly in the thin meninx and the diaphragm (*kata te tēn leptēn malista mēninga kai to diaphragma*). For someone who remembers these matters does not need to be told that the beats of the pulse are few and hard as a consequence. And indeed, if the disease is hot, but the throbbing is small, then necessarily they are very frequent.

These aetiological models seem to remain a doctrinal matter, present in the physician's understanding only. After all, Galen had explicitly pointed out that causation as he discusses it is not always – indeed, rarely – evident to the patient.[98] But the very complexity of the discussions, and the thematization of the abstract questions posed by semiotics and aetiology in the case of our disease, testify to its medical and clinical importance, its proliferation in a variety of scientific-medical fields of debate, and – more broadly – its diffusion, by now, in the general knowledge of a wide audience, albeit one constricted in terms of class and intellectual background.

[98] See above, pp. 109–10.