Galen's Wounds: Dissolutions and the Theoretical Structure of Galen's Disease Taxonomy*

Galen conceives of wounds, fractures, and similar conditions as belonging to one of the highest genera in his taxonomy of disease. This classification is puzzling, as much from an ancient Greco-Roman perspective as from a contemporary one. In what sense are wounds and other injuries diseases? The classification appears more perplexing in light of Galen’s method of conceptual analysis, which takes ordinary language use as a starting point. What, then, motivated Galen’s departure from common Greek conceptions of disease? This article examines the class of disease that Galen called “dissolutions of continuity” in the broader context of his system of nosological definition and classification. It concludes that Galen’s analysis of wounds is driven by his theory of causation, and by his localization of disease and its mechanism inside the body, a conceptualization typical of Greco-Roman medical writing. This conclusion sheds further light on Galen’s method of disease classification and the role of dissolutions within it.

Are cuts to the skin and other wounds diseases? What about torn ligaments and fractures? Galen of Pergamum (129–ca. 216 CE) considered them so.¹ Indeed, such injuries constituted one of the main pathological classes in his taxonomy of disease, the historical influence of which lasted well into the sixteenth century. Galen classified all diseases into three main genera: primary diseases (affecting the tissues or homoiomerous parts); secondary diseases (affecting the organs); and “dissolutions of continuity” (affecting both tissues and organs), to which he assigned

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¹. When citing Galen’s work, I refer to treatises by full English title in the body of my text; references in the notes follow Hankinson 2008: xix–xxi. Where possible, all citations include the Kühn volume and page number as a common point of reference. If a later critical edition is available, it precedes the Kühn reference. All translations are my own unless otherwise indicated.
wounds and other ruptures in the surfaces of the body. Galen’s classification may seem puzzling; after all, it is a common intuition that injuries are distinct from diseases. One might suppose that this distinction is merely an anachronism, and that the identification between wound and disease reflects historical contingencies of Greco-Roman nosological concepts. However, Greek speakers of Galen’s time—the second century CE—were also likely to have found this categorization of wounds and disease perplexing. Discussions of the topic in earlier Greco-Roman literature only underscore how unusual this feature of Galen’s classification was in its historical context. The treatises of the Hippocratic Corpus (5th–3rd centuries BCE), for example, offer only the most tenuous evidence for such an identification. Anonymus Londinensis (late 1st century CE) makes no mention of injuries in its doxography of disease theories from the fifth to first centuries BCE. Celsus (1st century CE) does not include them in his treatment of diseases and their classification in *De Medicina*, and they do not appear in the lists of acute and chronic diseases in *Anonymus Parisinus* (ca. 1st–early 2nd century CE). Moreover, Galen himself writes that the classification had no ancient precedent.4

Despite its peculiarity, Galen’s taxonomy was incorporated, along with his definition of disease, into the *Summaria Alexandrinorum*, a sixth-century anthology that was a standard part of the Alexandrian medical curriculum in late antiquity.5 Galen’s nosological system had an enduring influence on later concepts of disease in the Islamic and Western European medical traditions, making its way onto the pages of Avicenna’s *Canon* and Vesalius’s *Fabrica*.6 And while his classification is no longer standard, Galen’s concept remains influential as the basis for Christopher Boorse’s Biostatistical Theory, perhaps the most noted contemporary naturalistic model for disease definition.7 The taxonomical puzzle, then, prompts some questions: Why did Galen include wounds in his system of classification, and why as an independent genus of disease? Were there philosophical motives and, if so, what were they? How does Galen’s general system of disease classification align with models available to him? Answers to these questions will shed additional

2. The range of traumas classified as diseases in the clinical nomenclature of the American Medical Association’s taxonomy of disease from the mid-twentieth century, the *Standard Nomenclature of Diseases and Operations*, includes wounds due to stabbing and gunshot, abrasions, fractures, etc. See Thompson and Hayden 1961: 83–86, 118–19, 125–27, 136–37, and passim. The AMA *Nomenclature* is an outlier, however. Furthermore, it is both a technical treatise and clinical in outlook, two features shared by Galen’s own disease classification that may have relevance.

3. I discuss this evidence in section four.


5. See Overwien 2013.


light on Galen’s influential taxonomy and contribute to our understanding of his theoretical approach to disease classification.

In this paper, I argue that Galen’s classification of wounds is an outgrowth of his method of definition and his theory of causation. It is at first difficult to reconcile the classification with Galen’s general method of conceptual analysis, which begins by establishing a suitable definition of the subject and then analyzing it into its most general classes. The general classes are then articulated by a process of logical division (diairesis) into increasingly specific class-kinds according to their essential features (their differentiae).8 Galen had little reason to include external causal factors among the differentiae of diseases in the absence of something like a germ theory, in which communicability and externality can be important conceptual criteria. This is not to say, of course, that external, antecedent causes lack diagnostic and, therefore, therapeutic relevance in Galen’s system of medicine. However, I conclude that Galen considered causal factors internal to the body, especially so-called proëgoumenic causes, of primary relevance for establishing the genera and species of his disease taxonomy. Galen’s analysis, I argue, requires him not only to classify wounds and similar conditions as diseases, but also to classify them as an independent genus. These conclusions offer a theoretical explanation for the structure of Galen’s innovative taxonomy and the place of wounds within it.

The paper proceeds in four sections, followed by concluding remarks. In section one, I discuss Galen’s definition of disease. In section two, I elaborate the main genera of his disease taxonomy. In section three, I give an overview of Galen’s causal theory, arguing that the main differentiae by which he articulates the genera of his taxonomy into more specific classes are causes internal to the body. In section four, I reexamine wounds and their nosological genus, “dissolutions of continuity,” in light of my conclusions in the preceding sections.

1. GALEN’S DEFINITION OF DISEASE

Galen’s project of disease classification begins by establishing a definition of disease (nosos).9 Typically, he derives technical definitions from usage, gathering examples from ordinary Greek speakers or widely held definitions to arrive at common concepts (ennoiai).10 He then generalizes from usage to an essential definition,


9. While the dominant pathological model in Greco-Roman medicine is one of imbalance in constituent parts of the body, there is a conspicuous lack of systematic analyses of disease as a concept before the first century CE; cf. Lonie 1981: 328–29. The first surviving example of a general definition of disease of which I am aware is in the pseudo-Galenic Medical Definitions (Def.Med. 133, XIX.386 K.), dated by Kollesch 1973: 60–66 to the late first century CE.

whose definiens is intended to contain identity conditions for the extension of the definiendum. From this definition, Galen analyzes the definiendum into its genera and species until he arrives at an atomic level of differentiation, a process of taxonomical division (diairesis) inherited largely from Theophrastus, Aristotle, and Plato.  

Galen offers the following general definition of disease: “Disease is thus a physical constitution (κατασκευή) contrary to nature and a cause of injury to activity or, more briefly: disease is a physical condition (διάθεσις) contrary to nature (παρὰ φύσιν) that is an impediment to activity (ἐνεργείας ἐμποδιστική).”

Galen’s definition is a significant departure from nosological accounts in earlier Greco-Roman medical and philosophical writing, which often describe varieties of diseases as well as their causes but do so primarily to explain diagnosis and treatment. As Iain Lonie has observed, those early authors appear to have made no attempt at a general definition of disease. Versions of Galen’s definition appear in his compendious treatise The Therapeutic Method; in his two shorter nosological works, The Differentiae of Diseases and The Causes of Diseases; and throughout his writing. Three main features of the definition will guide my discussion: diseases are physical conditions (diathéseis) that are contrary to nature (para phýsin) and impede biological activity (energeias empodistikē).

Therapeutic concerns encouraged Galen to identify disease with the conditions (διαθέσεις) responsible for impairing the body’s activities rather than the impaired activities themselves, as the physician treats conditions and not the activities that are impaired:

For either way that they define [sc. disease], a patient will be made healthy only if someone administers the right treatments to their conditions (διαθέσεις). For conditions are what one has to change, reverse, and finally do away with, not impairments to activities. In any event, no

11. See, e.g., MM 1.3 (X. 22, 26–27 K.). On differences between Galen’s approach to definition and that of Aristotle see Hood 2010: 459–65. The relevant difference here is that Galen begins with an appeal to ordinary language use to arrive at ennoia.


13. See Lonie 1981: 328–29. Various Hippocratic treatises attribute causes of disease to imbalances in constituent elements of the body: e.g., the canonical four humors in Nature of the Human; blockages in bodily channels or excesses of phlegm and bile in The Sacred Disease; the interaction between physical dispositions and environmental factors in Airs, Waters, Places; perceptible qualities such as bitterness and sweetness in Ancient Medicine; excess or deficiency of the fatty and glutinous in Fleshes or of internal airs in Breaths. For a survey of other Hippocratic examples see Nutton 2013: 72–86. Cf. Arist., Top. 6.2, 139b21–22; 6.6, 145b8–10, and Phys. 7.3, 246b3–7; Anon.Lond. IV 26–28.

14. See, e.g., San.Tu. 1.5 (CMG V 4.2, 11 = VI.21 K.); Morb.Diff. 5 (VI.837–38 K.); Symp.Diff. 1 (CMG V 5.1, 199–200, 206, 208 = VII.43, 47, and 49 K.) and 4 (CMG V 5.1, 244 = VII.74 K.); MM 1.5 (X.39–42 K.), 2.1 (X.81 K.); HNH 2.1 (CMG V 9.1, 58 = XV.111 K.); and passim.

15. On the notion of diathesis in Greco-Roman medicine and its reception in later medical theory see Ackerknecht 1982.
one cures lameness in the person walking, since this is ridiculous; rather [one cures] the condition that brings about the lameness (e.g., the inflammation, if on account of inflammation).\textsuperscript{16}

In Galen’s view, this is a distinction without a substantive difference. The practitioner treats physical conditions, whether they are considered to be diseases or their causes. The point is not, however, merely methodological or even rhetorical.\textsuperscript{17} Therapeutic relevance bears directly on the distinctions Galen makes between classes of disease in his taxonomy, as well as on the boundary conditions for what counts as functional impairment.

By limiting diseases to conditions that are contrary to nature (παρὰ φύσιν), Galen aims to exclude debilitating conditions that members of a species typically experience in the course of life, all other conditions being benign (e.g., the degradation of vision or the loss of muscle tone in old age). He constrains pathological conditions to those that impair biological activity, so as to rule out conditions that are contrary to nature but also benign (e.g., tanned skin or prematurely gray hair). Both of these restrictions act to counter potential objections that might threaten Galen with a promiscuous ontology of disease, and they also strive to preserve Greek usage, preventing too catholic a definition.

Function and its impairment are central to Galen’s conceptualization of disease. In passages where he rehearses possible objections to his impairment criterion on grounds of vagueness, Galen places a further constraint on what sorts of impaired conditions are candidates for disease, an important restriction that attempts to counter soritical objections to his definition. Galen argues that impairment of biological activity as such is an insufficient condition for disease unless the impairment is also perceptible:\textsuperscript{18}

Perhaps someone would not concede that this condition [sc. dissolution of continuity] ever arises in people who are perfectly healthy; for it is always an affliction. But that person does not realize that this sort of challenge would arise in regard to all of the genera. For if disease is

\textsuperscript{16} MM 2.1 (X.80 K.), ἑκατέρως γὰρ ὄνομαζόντων, ὁ κάμνων ὑπάρχουσιν ἀποδειχθῆται, μόνον εἰ τὰ δέοντα τις ἰματα προσφέροι ταῖς διαθέσεισιν· αὐτά τις γὰρ εἰσιν ἂς ἄλλοιον χρή καὶ μεταβάλλειν καὶ τελέσαι ἐκκόπτειν, οὕτως αἱ βλάβας τῶν ἐνεργεῖσθαι. οὐσίας γενών ἵστα τὸ χολεῖσαι βασίζοντα, καὶ γὰρ γελόιον, ἀλλὰ τὴν ἐγκατάμενην αὐτῷ διάθεσιν, οἷον τὴν φλέγμονήν, εἰ διὰ ταύτην χολεῖσαι.

\textsuperscript{17} On Galen’s disavowal of terminological disputes see Barnes 1991 and Hankinson 1994b. His repudiation serves a dual purpose. It demonstrates an intellectual commitment to therapeutic relevance in medical practice, and it also allows him to frame his rivals’ debates as sophistical in contrast to his own intellectual project. In the process of dismissing these disputes, Galen shows his fluency in contemporary intellectual discourse. Of course, Galen’s approach is not monocausal. The importance he places on therapeutic criteria may be motivated by theoretical as well as social considerations.

\textsuperscript{18} On perception as a determinant of pathological impairments to activities see San.Tu. 1.5 (CMG V 4.2, 12.17–22 = VI.23 K.). On this point, with attention to perception of pain (λυπή) as a marker of impairment that has reached a point of being diseased, see Lewis, Thumiger, and van der Eijk 2017: 32–34.
not distinguished from health by perceptible damage (αἰσθητή βλάβη) to activity, but one only thinks about [this distinction] with respect to the type of condition, one will have to accept the doctrine of perpetual illness (ἀειπαθεία), seeing as no one enjoys universal perfect function. However, since this is a more theoretical problem, let it have a separate discussion.19

If one holds the view that functional impairment constitutes disease without qualification, Galen argues, then one is committed to the belief that all living things are in a state of perpetual illness, on the grounds that perfect function is idealized but not realized in the natural world. To emphasize the force of his reductio, Galen appears to have coined a term for this state of perpetual illness: “aeipatheia.”20 Galen’s arguments against aeipatheia are instructive of his approach to nosological definition. Disputes over the precise boundary conditions for diseases miss the mark, because they are mainly theoretical. These arguments may have a place but not in medical discussions. This point comes to the heart of the matter for Galen: definition and classification are medically useful insofar as they are therapeutically useful. Galen’s definition aims to produce a taxonomy of disease for purposes of treatment, one that classifies known diseases and is also supple enough to accommodate the introduction of those that are unknown.21

At this stage, it is helpful to draw an explicit and preliminary conclusion. Galen’s definition of disease entails that wounds and similar injuries are diseases, insofar as they are contrary to nature and result in perceptible impairment of activity. This conclusion explains why Galen would have classed such conditions as dissolutions, but it fails to account for his departure from ordinary usage. Far more importantly, it does not tell us why he classified dissolutions as an independent nosological genus. I believe that the causal principles underlying his classifications offer explanatory purchase not only for his treatment of dissolutions as a genus but also of his more general approach to nosological taxonomy.


20. Apparently confected for polemical purposes, the so-called doctrine of aeipatheia has no other ancient witnesses besides Galen. The word “ἀειπαθεία” is rare, appearing only eight times before the eleventh century CE. Galen accounts for six of these instances: *Ars Med.* 4 (285 Boudon-Millot = I.137 K.), 27 (360 Boudon-Millot = I.379 K.), *Temp.* 3.4 (104.27 Helmreich = I.676 K.), *San.Tu.* 1.5 (CMG V 4.2 10 and 14 = VL18 and VL29 K.), *Di.Dec.* 1.6 (IX.798 K.). Arethas of Caesarea, the ninth-century Byzantine theologian and commentator, preserves the rest (in commentaries on Porphyry’s *Isagoge* and Aristotle’s *Categories*). See Boudon-Millot 2007.

21. Cf. *Nat.Fac.* 2.9 (SM 3 193.16–18 = II.127 K.), “if you fail to understand the essence of each of the diseases, how can you gain clear knowledge of treatments?” (τὸ γάρ ἄν ἐπὶ τρόπον καὶ τῶν ἁμάτων εὐπαρομένης τῆν οὐσίαν ἐκάστου τῶν νοσημάτων ἀγνοοῦντες;).
2. GALEN’S TAXONOMY OF DISEASE

Galen divides his disease classifications into six main genera according to causal criteria. He also organizes diseases into three genera according to the kinds of structures they afflict: (1) diseases affecting homoiomerous parts (tissues), the basic functional and compositional units of the body (e.g., flesh, bone, blood); (2) diseases affecting organs, more complex functional units made up of tissues; and (3) diseases that afflict both tissues and organs. The differentiae are intended to reflect essential features of species they pick out. Therefore, class 3 is an independent genus, as the diseases in that class do not occur exclusively in tissues or organs. Genera of disease are divided into species according to the physical conditions responsible for the disease. Galen explains the taxonomy in The Therapeutic Method:

Since I showed that all activities are dependent on homoiomerous substances and that all other parts in each organ make some use of them, there will clearly be two genera of diseases, one (1) in homoiomerous structures and the other (2) in the organs. (1) Imbalances (δυσκρασίαι) arise in homoiomerous parts; but (2) the other arises in whole organs (2a) due to its shape, one (2b) due to the number of its parts, another (2c) due to each part’s size, and a fourth (2d) due to its position. (3) Dissolution of continuity (ἡ τῆς συνεχείας λύσις) is a disease common to homoiomerous and organic structures. All told there are six genera of diseases. One is exclusive to homoiomerous structures (i.e., δυσκρασία). Four, as I said just now, [are exclusive] to each of the organs. In addition, one is common to organic and homoiomerous structures: dissolution of continuity (ἡ τῆς συνεχείας λύσις). I have discussed the differentiae relevant to each down to their intimae species in On the Differentiae of Diseases.

Most of the diseases that Galen classifies appear in earlier medical writing. For example, fevers fall into the class of compositional imbalances, as do epilepsy, inflammations, and mental disorders such as phrenitis and mania. However, earlier Greco-Roman classifications of disease lack Galen’s systematicity. Diseases may be classified as chronic or acute, as occurs sometimes in the Hippocratic Corpus.

22. There is also a causal component to Galen’s classification according to sites of affliction, since, in his pathological system, there is a close connection between the site of disease and its cause.

23. MM 2.6 (X.125–26 K.), ἐπειδὴ τὰς ἐνεργείας ὑπάρχουσας ἐδείξαμεν ὑπὸ τῶν ὁμοιομερῶν γεννομένας σωμάτων, τὰ δ’ ἄλλα πάντα τὰ καθ’ ἐκάστον ὄργανον μόρια χρείαν τινὰ τούτοις παρέχοντα, διὰ τῶν δήποτε γένους ἐστὶν νοσημάτων, ἔτερον μὲν ἐν τοῖς ὁμοιομερώσι σώμασι, ἔτερον δὲ ἐν τοῖς ὀλίκοις ὤργανοις· ἐν μὲν τοῖς ὁμοιομερῶσι ἀλλὰ δυσκρασίαι· τῶν δ’ ὄλων ὄργανόν ἐν μὲν τὸ παρὰ τὴν διάσπασιν, ἐν δὲ τὸ παρὰ τῶν ἀρτιήμων τῶν μορίων, ἄλλο δὲ τὸ παρὰ τὸ ποσὸν ἐκάστου, καὶ τέταρτον τὸ παρὰ τὴν θέσην, κοινὸν δὲ τῶν ὁμοιομερῶν καὶ τῶν ὀργάνων μορίων νόσημα ἐστὶν ἡ τῆς συνεχείας λύσις. Ἐξ οὗν ἐστὶν πάντα τῶν νοσημάτων γένη, ἐν μὲν ἰδίων τῶν ὁμοιομερῶν, ἡ δυσκρασία, τέταρτον δὲ ἐκάστου τῶν ὄργανον, ὡς εἴρηται νῦν ἢ δή, καὶ πρὸς τούτως ἐστὶν κοινόν ὀργάνων ταύτης καὶ ὁμοιομερῶν ἡ τῆς συνεχείας λύσις, ἀλλὰ δεν καθ’ ἐκάστον αὐτῶν διαφορά μέχρι τῶν ἐσχάτων εἰδών ἐν τῷ περὶ τῆς τῶν νοσημάτων διαφορᾶς εἴρηται.

24. For Galen’s classification of these mental conditions see Caus.Symp. 2.7 (VII.202–204 K.).
They may also be distinguished by whether they are caused by environmental factors or lifestyle (diaita). In the Timaeus (82a1–86a), Plato presents a system of diseases, perhaps borrowed from his near contemporary Philistion of Locri, that organizes diseases into those involving elemental constituents; those due to a putrefaction, in which unevacuated waste from tissues is reabsorbed into the body; and those caused by the obstruction of channels in the body. These classifications, which are representative of the surviving nosological tradition prior to Galen, tend to go no further in their complexity.

2.1. Diseases of the Homoioemerous Parts

The first genus in Galen’s nosological system exclusively affects the homoioemerous parts of the body. The term “homoioemerous” is Aristotelian in provenance; it refers to substances that are compositionally homogeneous, corresponding with tissues for all practical purposes. The only class of disease characteristic of homoioemerous parts is dyskrasia or compositional imbalance. Galen believes that the fundamental constituents of human tissues are two pairs of contrary elemental qualities (i.e., the hot, the cold, the wet, and the dry), although his model is neutral regarding the particular compositional nature of human bodies at this level. The homoioemerous parts of the body are blends of the elemental qualities, which are responsible for the characteristic structure of its different tissues. When the elemental composition of a given tissue exhibits the structure or blend appropriate to it, the tissue is eukratic. When the elemental composition of the tissue becomes sufficiently imbalanced, the tissue becomes dyskratic. Of the eight possible species of dyskratic diseases, four are caused by a pathological imbalance in an individual elemental quality. The other four are caused by pathological imbalances in two members of different contrary pairs (e.g., hot/cold and wet/dry). All living bodies also possess a general humoral blend or krasis, at the level of the natural kind. Individual organisms possess distinct humoral kraseis, although organisms exhibit certain humoral tendencies by virtue of age, sex, environmental history, and so on. Like other diseases, deviations from the krasis of a tissue or organism become pathological when they result in a perceptible impairment to biological activity.
2.2. DISEASES OF THE ORGANS

As in the first genus, diseases of the organs are exclusive to those parts. Galen’s criteria for organs are functional. Structures in the body that perform discrete and independent activities are primary organs (e.g., the eye, whose activity is vision).30 Structures whose operation mainly contributes to the activity of other organs are secondary or auxiliary (e.g., the cornea, whose activity is to aid the eye in seeing). In some contexts, Galen treats organic diseases as a single class that subdivides into four main species caused by deviations in (2a) shape, (2b) number, (2c) magnitude, or (2d) position relative to other organic structures. In other cases, the four main species are themselves genera of organic disease. Regardless of the hierarchy, the classes of organic disease are all determined morphologically. For example, vision loss may result from (2a) ocular deformity (e.g., collapse of an eye pierced by a stylus);31 (2b) loss of an eye or its agenesis; or (2c) conjunctivitis or significant swelling of the eye, for example, from inflammations (phlegmonai), indurations (skirroi), or abscesses (apostemata).32 Vision may also be impaired by such pathological conditions as (2d) dislocations, ectopic pregnancy, etc. Each of these conditions is classified according to its internal causes and the structure that it characteristically afflicts.

2.3. DISEASES OF THE HOMOIOMEROUS PARTS AND ORGANS

Galen describes a final class of diseases that is common to organs and homoiomeros parts. Diseases of this class are caused by breaks in a continuous surface of the body, either internal or external. These include wounds, fractures, lesions, and other such interruptions of bodily surfaces. Galen calls this class “dissolution of continuity” (συνεχείας λύσις) or “dissolution of union” (ἑνώσεως λύσις). I have mentioned already that Galen’s work is the earliest surviving evidence for this taxonomical distinction, for which he is probably also responsible. Galen’s conceptualization and classification of dissolutions offer evidence of the theoretical commitments underwriting his taxonomy of disease, insofar as they deliberately seem to diverge from traditional disease concepts. For now I offer little more than a sketch of the class. I will return to it in more detail in section four.

3. GALEN’S THEORY OF CAUSATION

In describing Galen’s taxonomy of disease, I have attempted to show that causal criteria are important determinants of genera and species in his system of

30. All the sensory organs as well as the three centers of physiological functions in the body (i.e., the brain, heart, and liver) are primary organs. Any organs that contribute to their activities are secondary. For Galen’s extended discussion of the eye and its diseases in this context see Caus.Symp. 1.1–3.1 (VII.85–102 K.).
31. See Caus.Symp. 1.2 (VII.100 K.). This example combines two diseases. The first is trauma to the eye. The second is loss of shape resulting from the ensuing loss of the aqueous humor.
32. See Caus.Symp. 1.2 (VII.93 K.).
classification. Galen’s typical causal schema is tripartite: causes are *prokatarktic*, *proēgoumenic*, and *synektic*. These technical classifications were sufficiently important to Galen that he wrote treatises on *prokatarktic* causes (*De Causis Procatarcticis*) and *synektic* causes (*De Causis Contentivis*). When they are distinguished from one another in medical contexts, *prokatarktic* causes are external to the body, while *proēgoumenic* causes are generally internal; both temporally precede their effects. Galen offers the example of a patient who develops a fever after being out in the cold. The ambient cold is a *prokatarktic* cause of the fever. There are a series of *proēgoumenic* causes that arise in part due to its influence: pores in the skin constrict, which prevents the body from regulating its temperature through the release of waste products. Over time, the body overheats and becomes fevered.

In a modern example Galen might have analyzed hay fever as a disease (obstruction of a passageway) that causes difficulty in breathing. The disease results when the nasal passages are constricted (*proēgoumenic* cause of obstruction). Constriction is caused by inflammation (*proēgoumenic* cause of constriction). Inflammation is caused by a *dyskrasia* (*proēgoumenic* cause of inflammation) in response to allergens in the surrounding air (*prokatarktic* cause of the *dyskrasia*). The condition is classified as an organic disease in part by its proximate *proēgoumenic* cause, in this case, constriction of the nasal passageways. Note, these categories pick out the relevant causal relations in which events stand to one another: An *internal* physical condition can be both a disease and the *proēgoumenic* cause of different disease. In Galen’s example of the cold-induced fever, the fever is a disease; but it is also the cause of a distinct disorder: a diseased pulse. In the modern example, inflammation is a disease of the tissues, the *proēgoumenic* cause of which is a *dyskrasia*. However, inflammation is also the *proēgoumenic* cause of constriction, a disease of the organs. Our patient with hay fever may be unlucky and suffer heart trouble due to difficulty breathing, in which case the hay fever would be the *proēgoumenic* cause of his or her cardiac distress.

The third category, the *synektic* cause, plays an obscure part in Galen’s pathological system. It has roots among the Stoics but underwent significant changes in meaning over time, a shift which R. J. Hankinson attributes to the influence of the medical sects. In Galen’s work, *synektic* causes (sometimes translated as “containing causes”) are co-temporal and strongly correlative with their effects. In the main, he invokes these causes to explain features of his physiological theory.

33. *Prokatarktic* causes are occasionally called *prokatarchic*. The terms appear to be synonymous. Cf. *Caus.Symp.* 1.6 (VII.125 K.).
34. See, e.g., *MM* 11.9 (X.761–64 K.).
35. See *Caus.Puls.* 1.1 (IX.2–3 K.).
For example, the tightness of the choroid membrane of the eye correlates directly with the dilation of the pupil; it is a *synektic* cause of it. In discussions of his pathological theory, Galen refers only rarely to *synektic* causation. One possible explanation for Galen’s silence is that in his analysis of disease, the conceptual cluster—internal cause, disease, and perceptibly impaired activity—tends to treat disease as a *synektic* cause of impairment.

The few examples in which Galen does discuss *synektic* causation in pathological contexts support this reading. One involves the choroid membrane again, in a discussion of pathological dilations and constrictions of the pupil. In describing diseases of appetite, Galen says that heat is a *synektic* cause of feeling satiated. However, too little heat and the patient may be overcome with ravenous hunger.

In his pathological system Galen focuses on *prokatarktic* and, especially, *proēgoumenic* causes. Stoic theories of causation already distinguished *prokatarktic*...
from *synektic* causes, partly on grounds of antecedence.\(^{45}\) The distinction between *prokataktärktic* and *proőgoumenic* causes was a later innovation.\(^{46}\) As I have mentioned, in technical contexts *prokataktärktic* causes are external, while *proőgoumenic* causes are usually internal.\(^{47}\) Furthermore, *prokataktärktic* causes are not, as such, sufficient for their effects; certain physical dispositions of the bodies on which they act are necessary. Allergic reactions are helpful modern parallels. For instance, to return to the hay fever example, pollen and dust are causally relevant to the body’s response. Absent certain physical dispositions, however, they may be causally inert or insufficient to produce allergic responses. When all three causes are deployed in Galen’s work, *synektic* causes arise from *proőgoumenic* causes, which are the result of the body’s interaction with *prokataktärktic* causes:

To put it generally, however many things external to the body alter something in it are called *prokataktärktic* causes, since they precede the dispositions in the body. And these dispositions, when they affect the *synektic* causes, become *proőgoumenic* causes of them. For suppose that the skin is constricted by an onset of external coldness and on account of its constriction, suppose that its natural transpiration is hindered, and being hindered suppose that it accumulates, and in this way a fever takes hold, under whose influence the function of the pulse [sc. the regulation of vital heat] is altered, and on account of this [sc. alteration] suppose that the pulse is also altered. Here the onset of external coldness is the *prokataktärktic* cause and all the other causes leading up to the function of the pulse are *proőgoumenic*. Therefore, through the intervening *proőgoumenic* causes, the *prokataktärktic* cause, by altering the function of the pulse, which is one of the *synektic* causes, in this way also affected the pulse itself.\(^{48}\)


46. Galen attributes the tripartite division to Athenaeus of Attaléia (1st century BCE–CE), the founder of medical Pneumatism and a student of Posidonius (see *CC* 8.3–9.4 Kalbfleisch = *CMG* Supp. Or. II, 134.3–15). None of Athenaeus’s work survives, and scholarly debate about the nature of the Pneumatist sect remains. Their fragments are collected in Wellmann 1895. One notes, if only in passing, that in this reference Galen attributes to Athenaeus the view that *synektic* causes are those that actually bring about the pathological condition, the same view of *synektic* causation laid out in Ps.-Galen *Def. Medic.* 157 (XIX.393 K.).

47. Galen commonly associates internality with *proőgoumenic* causes and externality with *prokataktärktic* causes. See *Caus. Morb.* 2 (VII.10 K.); *Caus. Puls.* 1.1 (IX.2–3 K.); and *MM* 1.8 (X.65–66 K.). The association is also attested in *Medical Definitions*. See Ps.-Galen *Def. Medic.* 155 (XIX.392 K.).

48. *Caus. Puls.* 1.1 (IX.2–3 K.), καθάπου γὰρ ἐπέλθει διὰ μὲν ἐξοθηθὲν ὅταν τοῦ σώματος ἄλλοι τι τῶν κατ’ αὐτὸ προκαταρτικά λέγεται, προκαταρτικά γε δὴ τῶν ἐν τῷ σώματι διάθεσεων ἀναίρετα δ’ αἱ διαθέσεις ὅταν τὰ συνεκτικά τρέφοντα προηγούμενα γίνονται αὐτῶν αἰτία, φέρε γὰρ ὑπὸ προσπεπάντος ἐξοθηθὲν ψυχρὸν πυκνοθείη μὲν τὸ δέρμα, διὰ δὲ τὴν τούτων πύκνοιν ἐπαρέχει ἡ τὴν κατὰ φύσιν διαπνεύσιν, ἐπαρέχεισθαι δ’ ἀροσθήναι, κατασταθ’ ὄψις ἐξόμισε πυρέτον, ἵπτ’ ὃ τὴν χρείαν τῶν σφυγμῶν ἄλλωσθησθαι, καὶ διὰ τούτῳ καὶ τοῖς σφυγμοῖς, ἐνταῦθα προκαταρτικά μὲν αὐτῶν τὸ προσπεπάντος ἐξοθηθὲν ψυχρὸν, τὸ δ’ ἄλλα πάντα τὰ μέχρι τῆς χρείας τῶν σφυγμῶν προηγούμενα, διὰ μέσον οὖν τῶν προηγούμενον τὸ προκαταρτικόν αὐτῶν, ἄλλωσθαι τὴν χρείαν τῶν σφυγμῶν ἐν οὕτως τῶν συνεκτικῶν αἰτίων, ἔτρεψεν οὕτω καὶ αὐτοῦς τοῖς σφυγμοῖς.
It is worth lingering over the distinction between externality and internality in Galen’s conception of disease and its proper etiology. Insofar as *prokatartikic* causes are external to the body, they are separable from it and its internal processes. From a contemporary perspective, it is common enough to talk loosely about externals like pathogens as diseases. Pathological terms like “cold” can pick out the rhinovirus as well as the pathological physical response of a body to it; “flu” can refer to the influenza virus or the disease. In more technical contexts, “disease” and the names of specific diseases refer to physical conditions inside the body. Pathogens may play a causal role in the emergence of these physical states, but their role is strictly etiological. This ambiguity, perhaps more pervasive after the advent of germ theory in the late nineteenth century, makes it easy to overlook the relevance of externality as a line of demarcation for the ontology and taxonomy of disease in premodern nosological systems such as Galen’s. A few outliers notwithstanding, health and disease were a matter of a body’s individual dispositions to dietary and environmental factors. From a Greco-Roman perspective, disease was conceived primarily in terms of internal imbalances or other pathological processes inside the body. Galen’s comments on the role of *prokatartikic* causes in diagnosis and therapy underscore their limited place in his conception and classification of disease. The relevance of *prokatartikic* causes to the physician is mainly semiotic. When discussing diagnostically relevant information in *Hygiene*, he writes: “Knowledge of habits has the same usefulness as of the so-called *prokatartikic* causes. For we derive some benefit from all these sorts of things for purposes of a more precise diagnosis of a condition, but we derive no therapeutic indication from them.” External causes can bear on the physician’s epistemic access to disease, like other circumstantial factors that are neither necessary nor sufficient for their effects. But while they may aid the physician in recognizing the presence of a disease, external causes offer no special knowledge of it or indication of its treatment. For these reasons, Galen seems to find little use for *prokatartikic* causes beyond diagnosis. He implies the stronger claim in *The Therapeutic Method*: “... some of the *prokatartikic* causes contribute to the diagnosis of physical conditions. But when no part of

49. Separability or impermanence are core features of their definition in *Def.Med.* also. See Ps.-Galen *Def.Med.* 155 (XIX.392 K.).

50. These outliers often occur, when they do, in more traditionally literary contexts. For example, Apollo inflicts *nousos* on the Greeks on the shores of Troy in the *Iliad* (II. 1.9–16). Pandora releases *nousoi* from her jar in Hesiod’s *Works and Days* (Op. 102). In both instances, disease appears to be externalized. For present purposes, it is enough to note that discussions of disease in Greco-Roman medical writing most often conceive of disease as an internal condition, process, or breakdown in biological activity.


52. See Hankinson 1987: 95.

53. San.Tu. 5.10 (CMG V 4.2 159.21–24 = VI.361 K.), ἡ δ’ αὐτή χρεία καὶ τῆς τῶν ἐθνῶν γνώσεως ἐστὶ καὶ τῆς τῶν προκαταρκτικῶν ὁνομαζόμενον αἰτίων· εἰς γὰρ τὴν τῆς διαθήκης ἀκριβεστέρᾳ γνώσιν ἐκ τῶν τοιούτων ἀπάντων ὁφελομένη, τῶν δ’ ιμάτων ἡ ἐνδείξεις οὐκ ἐκ τούτων γίνεται. Cf. *MM* 4.3 (X.244 K.).
the condition at hand escapes one’s notice, the usefulness of the prokatarktic cause also disappears.” \(^{54}\) Insofar as they do not contribute to therapeutic indication and are nonessential features of disease and its causation, prokatarktic causes play a peripheral role in Galen’s ontology and taxonomy of disease. One must seek out the right kinds of causes for disease inside rather than outside of the body, a point which brings us back to proēgoumenic causes in Galen’s system of pathology.

3.1. PROĒGOUMENIC CAUSES

Proēgoumenic causes, like their prokatarktic counterparts, precede their effects temporally. And while they are not sufficient to bring about their effects as such, over time they will do so unless interrupted. Unlike prokatarktic causes, proēgoumenic ones occupy a central place in Galen’s conception and classification of disease:

So one who desires the truth should try in every way to avoid what is believed on the basis of names; rather one should proceed to the very essence of things, examine this, and inquire into the number of all the diseases, symptoms, and beyond this their proēgoumenic causes.\(^{55}\)

This passage follows a digression on the epistemic pitfalls of arguments grounded in merely nominal distinctions, a hobbyhorse of Galen’s.\(^{56}\) He then outlines a proper method for nosological inquiry: after establishing an essential definition of disease, one must inquire into the number of disease kinds, the symptoms that follow them, and their proēgoumenic causes.

Hankinson takes Galen as referring loosely to all preceding causes (i.e., both external and internal) in this quotation.\(^{57}\) On theoretical grounds I understand these proēgoumena as referring mainly to preceding and proximate internal causes. The primary relevance of prokatarktic causes in Galen’s nosology is epistemic: they can assist the physician in diagnosing the underlying condition. Therapeutic indications are taken from the pathological condition(s).\(^{58}\) For these reasons, it is not surprising that prokatarktic causes play a much more important role in epistemological discussions. Here Galen is focused on the ontology and taxonomy of disease, a context in

54. *MM* 4.3 (X.246 K.), ἐξ διὰ διάγνωσιν τῶν διαθέσεων ἔννοι τῶν προκαταρξάντων αἰτίων συντελεῖ ἦν τοῖς ὑπὸ τῆς παρούσης διαθέσεως, οὕτως καὶ τῷ προκατάρξαντος ἡ χρεία.

55. *MM* 2.2 (X.84–85 K.), πειράσθαι δὴ την ἐπιπλάνη, ἐπεὶ δὲ τὴν ὑπὸ εἰς τὸν παρελθόντος ἐνέργειαν ἔνας τῶν προηγούμενων, ἐπί δὲ τὴν ὑπερήφανον ἐνέργειαν τῷ προηγούμενῳ ἔνας τῆς ἐνέργειας καὶ ταῦτα ἐπιθαύματα καὶ τητεῖα, ὡστά ὑπὸ τῶν σύμπαντι ἐπιθαύματα τοῖς συμπτώματι, καὶ προσέται τὰ προηγούμενα τούτων αἰτίαν.

56. See, e.g., *MM* 2.1 (X.80–81 K.), where Galen dismisses disputes over whether pathological conditions should be called nosēmata or pathē, as they had come increasingly to be called in the Roman imperial period. It makes no difference, he says, whether these conditions are called Theon, Dion, or even have no name at all, so long as they and their treatments are properly understood. For more examples of this attitude see *AA* 6.13 (606–608 Garofalo = II.581 K.); *Symp.Diff.* 1 (CMG V 5,1 204 = VII.46 K.); *Diff.Puls.* 1.1 (VIII.496 K.); *MM* 1.9 (X.70 K.), 7.2 (X.459 K.), and 11.12 (X.772 K.). See also Barnes 1991: 72–76; and Hankinson 1991: 162–64 and 1994b: 171–80.

57. Hankinson 1991: 166

58. See *MM* 4.2 (X.242–43 K.).
which prokatarktic causes have little bearing.\textsuperscript{59} The centrality of proēgoumenic causes to proper treatment and analysis of disease stems from their causal role in the perceptible impairment of biological activities:

One must cure a disease that has already occurred and is still present. However, one must prevent a disease from coming about that will arise from a condition in the body but that does not yet exist, curing what has already come about when it has come about and preventing what will come about from doing so. And [the disease] will be prevented when the condition due to which it naturally comes about (ἐφ’ ἃ γίνεσθαι πέφυκεν) is removed. This sort of condition is called a proēgoumenic cause.\textsuperscript{60}

Since eliminating the proēgoumenic cause of a disease eliminates the disease resulting from it, those conditions that are or become proēgoumenic causes of a disease are necessary conditions of it. And while they are not sufficient causes of disease taken individually, proēgoumenic causes will bring about disease over time unless they are impeded, usually by successful treatment. For example, the proēgoumenic condition responsible for phlegmonē (an inflammatory disease) is a persistent and excessive influx of blood. Every instance of phlegmonē is caused by such an influx, and every excessive influx of blood will lead to phlegmonē over time unless treated.\textsuperscript{61} The phrase “ἐφ’ ἃ γίνεσθαι πέφυκεν” reflects the close causal connection between disease and its proēgoumenic causes.

It is helpful to recall that conditions are not intrinsically proēgoumenic. For a condition to be proēgoumenic is just for it to stand in a certain causal relationship to disease. The relevant theoretical analysis takes perceptible functional impairment as its starting point. When such an impairment is present, diseases are just those unnatural physical conditions responsible for it. Their proēgoumenic causes are just those physical conditions causally proximate to disease. These physical conditions may be diseases with their own proēgoumenic causes. In The Therapeutic Method, Galen offers a class of chronic fevers as an instance of such a causal chain.\textsuperscript{62} The example is of a body that produces an abundance of thick and viscous humors. Over time, the humors overwhelm the body’s ability to void them (either through the vascular

\textsuperscript{59} See, e.g., Symp.Diff. 2 (CMG V 5,1 216.6–9 = VII.54–55 K.), “So, now I must discuss differentiae, returning to the beginning of my argument, since I said that generically a symptomai is anything that happens to a living thing contrary to nature (i.e., even diseases and their internal causes). For indeed, prokatarktic causes are not symptomata.” (λεκτενοῦσαν οὖν ἡ ὅταν διαφοράς ἔπε, ἀρχὴν ἀναγείγοντας τόν λόγον, ἐπακολουθοῦσα συμπτωμα προσαγορεύεται γενικῶς μέν ὅτι αὐτὸν ὅτι πειρὸν ὑπήρξεται τῷ ἄνω παρά φύσιν, ὡς καὶ τὰ νοσήματα, καὶ τὰς αἰτίας αὐτῶν τός τι οὐκ ὄντα συνισταμένας· οὐ γὰρ δὴ τὰς γε προκαταρκτικὰς εἶναι συμπτωμάτα.)

\textsuperscript{60} Ars Med. 28 (360.15–361.4 Boudon-Millot = 1.380 K.), τὴν μὲν γὰρ ἢ ὅτι γεγενημένην τε καὶ οὕσαν πολλόν ἑιδαίρει χρῆ· τὴν δ’ ὅποιο μὲν οὕσαν, ἑπομένην δὲ ἐκ τῆς κατὰ τὸ σώμα διαθέσεως κολλήσες γεγέντοις: τῆς γεγομένης δὲ, τὸ μὲν ἢ ἠδροτός ἰδέας, τὸ γεγομένον δὲ κολλήσεις γεγέντοις: κολλήσεται δὲ, τῆς διαθέσεως ἐφ’ ἃ γίνεσθαι πέφυκεν, ὀναρεθείσης· ὄνομάζεται δὲ ἢ τοιαύτη διάθεσις αἰτία προσγεμένη.

\textsuperscript{61} See MM 13.2 (X.876–78 K.).

\textsuperscript{62} MM 11.9 (X.761–62 K.).
Finally, the septic process induces fever. On one level of analysis, the physician identifies the condition (fever) and discovers its proximate internal cause (humoral putrefaction). However, humoral putrefaction is itself the consequence of an organic disease, the blockage of the body’s internal channels. Moreover, the *proëgoumenic* cause of this blockage is a pathological abundance of thick and viscous humors. While abundance is a proximate cause of blockage, it is not a *proëgoumenic* cause of fever, because it lies at least one causal remove from it. In *On the Differentiae of Symptoms*, Galen explains the causal relationship as a series of stones (S₁, S₂, and S₃) that topple like dominos. The fall of one stone is a proximate and sufficient cause of an adjacent stone’s fall.⁶³

Diagnosis proceeds from functional impairment along the relevant causal links until the most basic relevant internal condition is discovered. Treatment follows in the opposite direction, beginning with this basic internal condition and proceeding through its effects until the disease and its *proëgoumenic* cause, if still present, are cured.⁶⁴

And, doubtless, it is appropriate in all such cases [sc. where the aim is to restore the body allopathically] to look for the cause of some effect that is primary and self-sufficient and not one that [operates] through an intermediary (i.e., not a so-called *prokataritic* or *prokatarktic* cause). This is what Hippocrates seems to be reminding us often at other points and in saying, “it is sometimes true that in the case of *tetanos* without a wound/lesion, for a well-fleshed young man in mid-summer, a pouring of a lot of cold water [on him] restores heat and heat cures these things.” For if someone thinks about these sorts of things very superficially, he will suppose that occasionally some of the things contrary to nature are treated by similars, as *tetanos* is treated by a cold bath.⁶⁵

In each instance, the goal of treatment is the disease and any remaining *proëgoumenic* cause. Galen does not make this point explicit, but one of his primary principles for establishing differentiae of diseases, along with the sites in which diseases arise, stems from the explanatory centrality of *proëgoumenic* causes to the diseases that result from them.


64. For perspectival differences between diagnosis and treatment see *MM* 11.10 (X.763 K.). For the importance of treating *proëgoumenic* cause(s) of disease along with the disease itself see *MM* 3.10 (X.231 K.). Here Galen sets out his aims for the books on dissolutions (4–6). First he will discuss treatment of dissolutions, then the treatment of their *proëgoumenic* causes.

65. *Caus.Symp.* 1.6 (VII.125 K.), προσήκει δὲ δήπου τοῦ πρώτου καὶ καθ’ ἑαυτό, καὶ μή δι’ ἑτέρου μέσου, τοῦ τέλους στίγμον, οὗ τὸ προκατάρθον καὶ προκαταρκτικόν ἀνομαζόμενον, ἐν τοῖς τοιούτοις ἐπιστεῖ σκοπεῖν, ὅπερ Ἰπποκράτιτος ἦμας ἐν ἄλλους τε πολλάκις άναμμήνησεν ἐνίκη καί τοῦ φανεῖ, ἐστι δὲ δικοῦ ἐπὶ τετάνου ἀνέχεσθαι, νεύον εὔσαρχον, θέρεας μέσου, ψυχροῦ πολλοῦ κατάχυσιν ἐπανάληψιν θέρμης ποιεῖται: θέρμη δὲ ῥωτεῖ ταῦτα, δόξει μὲν γὰρ ὅ γε τῆς ὑπ’ ὑπ’ τῶν τοιούτων ἀσκεπτότερον ἀποφανόμενον ὑπὸ τῶν ὁμοίων ἐνιότε θεραπεύεσθαι τι τῶν παρά φύσιν, ὃσπερ καὶ τὸν τέτανον ὑπὸ τῆς ψυχρολογίας.
3.2. Taxonomical Importance of Proëgoumenic Causes

At the highest level of abstraction, Galen distinguishes diseases by their location, either in homoiomerous parts of the body (tissues) or in organs. I will set aside for now dissolutions of continuity, which occur in tissues and organs. Galen classifies all diseases of the tissues according to their proëgoumenic causes—the elemental or humoral dyskrasias from which they arise.66 For example, phlegmone, the inflammatory disease mentioned earlier, is a simple dyskrasia—an excess of heat, which is caused by persistent, excessive blood flow (plëthora) into the tissues. The main sortal criterion for inflammations, tumors, and other swellings (δύκοι) is according to the kind of humoral influx from which the disease arises.67

Galen also classifies diseases of the organs by site of affliction and proëgoumenic cause: pathological morphology, size, location, and numerical excesses or deficiencies. For example, in On the Differentiae of Diseases, Galen analyzes a broken nose:

In this case it is necessary to know that sometimes when the morphology of the part is damaged, it injures one of its channels. Such a thing clearly happens in the case of the nose, when, bent upwards by the force of some blow, the nasal passageways become so obstructed that one cannot breathe through them at all or with difficulty. Therefore, it is clear that in these sorts of conditions (διαθέσεις) obstruction of the passageway is the disease, for obstruction itself primarily hinders the activity of respiration. And the proëgoumenic cause of the obstruction is the deviation of the nose, since it is damage to its natural structure.68

In his example, Galen treats the broken nose as a morphological disease. The disease is the obstructed nasal passageway, because it is the condition (diathesis) responsible for impaired respiration. The causal chain began with an external blow (prokata-tarktic cause). The structure of the nose is such as to bend upward from its force. Consequently, the deviation of the nose is the proëgoumenic cause of the obstruction.

66. See, e.g., Morb.Diff. 4 (VI.844 K.), 5 (VI.848–49 K.); MM 2.6 (X.116–17 K.), 13.1 (X.874–75 K.). Cf. MM 2.3 (X.86 K.), where Galen gives examples of internal conditions according to cause (e.g., excess and corruption), disease (e.g., inflammations and wounds), and symptom (e.g., pallor and thinness).

67. See MM 13.4 (X.879 K.). There are at least five species of onkoi, consisting of conditions caused by a pathological influx of pneuma (pneumatōdesteroi) and any of the four humors: blood (inflammation), yellow bile (erysipelas), phlem ( OIDEMATA), and black bile and other viscous humors (scirrhous swellings). Pathological influxes are classified according to their proëgoumenic causes. For example, one class of plëthora is caused by digestive failure (MM 1.8. X.66–67 K.). There are some complications for Galen at this stage of analysis. See Brain 1986: 12.

68. Morb.Diff. 7 (VI.861 K.), χρή δὲ κάνασθαι γινόσθεν, ώς ἐνιότε τὸ σχῆμα τοῦ μορίου βλαβέσθαι ἑκάστου ἕκαστο πόρον, οὖν τι κατά τῆς ῥάνος φαίνεται γιγνόμενον, ἐπεὶ δὴ ἐντὸς ἐπὶ πληγῆς βιαίου ποτὲ συμμεθῇ στενοχωρία τὸν ἐντός πόρον ὡς ἤτοι μὴ ὅλος ἢ μόνης ἀναπνέον ὃν αὐτῷ, δὴ λοιπὸν οὖν, ὡς ἐν ταῖς τοιαύταις διαθέσεσιν ἢ μὲν στενοχωρία τοῦ πόρου τὸ νόσημα ἔστι, (πρῶτος γὰρ ἀντί τὴν τῆς ἀναπνοῆς ἐνέργειαν ἐμποδίζετο, προηγουμένη δʼ αὐτῆς αὐτίκα τῆς ῥάνος ἢ σμάσης, βλάβη τοῦ κατὰ φύσιν ἐν αὐτή σχήματος ὑπάρχουσα.
or narrowing (stenochōria) of the nasal passageways. Galen’s analysis of other organic diseases proceeds along similar lines.

4. DISSOLUTIONS OF CONTINUITY

The taxonomic importance of proēgoumenic causes is also apparent in the final genus of Galen’s nosological classification. The genus that Galen calls “dissolution of continuity” (συνεχείας λύσις) comprises conditions that are caused by breaks or interruptions in any continuous surface of the body. Since dissolutions are common to the body’s organs and its tissues, affliction of one structure or the other does not properly differentiate the class as it does diseases of tissues and diseases of organs. Consequently, dissolutions constitute an independent class. Galen articulates the taxonomy more fully in On the Differentiae of Diseases, where his stated aim is to define disease, establish its genera, and determine its species according to their differentiae. The genus appears to have been Galen’s own innovation, a claim that he makes explicit in The Therapeutic Method: “while the one genus, dyskrasia, has an ancient name, the other one, the dissolution of continuity, has been named by me.”

Galen asserts not only that he was the first to name the class but also that he was the first to conceptualize it as a class. Galen’s claims are consistent with the available evidence. There is no hint that the members of the genus as he construes it were formerly collected into one taxonomical category. He employs a range of names besides sunecheias lusis, which are all equivalent according to him:

So, I am in the habit of calling this entire class [of disease] “dissolution of unity,” “destruction of unity,” “dissolution of continuity,” or however else I expect that my meaning will be clear to my audience. For I have not inherited any word established for this class by my predecessors, as there

69. For further examples of abnormal morphological conditions, including congenital cases, see Morb.Diff. 6 (VI.856–57 K.).
70. MM 13.1 (X.874 K.), τὸ μὲν ἔτερον, ἡ δύσκρασια, παλαιὰ ἔχουσα προσηγορίαν, τὸ δ᾿ ἔτερον ὥς ἒμαθῶν ὄνομαμενόν, ἢ τῆς συνεχείας λύσις.
are in some species of this [genus] (e.g., “fracture” and “caries” when there is a dissolution of continuity in a bone or “lesion” and “wound” when there is one in flesh).\textsuperscript{73}

Galen’s variety of expressions draws attention to the absence of technical language for the class, thus underscoring his claim that dissolutions were original to him.\textsuperscript{74}

As I mentioned in my introduction, only the thinnest of evidence exists in earlier Greek and Roman medical writing for concepts of disease that include conditions such as wounds, fractures, and various ruptures in the body, although it is common to find descriptions of pathological conditions associated with or arising from such conditions. I know of only two potential outliers, both in treatises of the \textit{Hippocratic Corpus}. In the first, the author of \textit{Breaths} writes in defense of allopathic treatment that all distressing conditions are diseases.\textsuperscript{75} Hunger, thirst, fatigue, repletion, and depletion are offered as examples in support of the claim. While none is a dissolution, the author’s expansive view of disease should include them. In the second outlier, in a broader exegesis on wound treatment, the author of \textit{Fractures} entertains but does not endorse conceptualizing some diseases as wounds:

For on which of the most serious matters in medicine does [this lesson] not bear, not only regarding wounds but also many other diseases? Unless someone claims that all the other diseases are also wounds. For this argument also has a certain plausibility, seeing as they are like one another in many ways.\textsuperscript{76}

A satisfactory interpretation of this passage is difficult. The explicit claim is not actually that wounds are diseases but that all diseases are wounds, leaving open the stranger possibility that the author conceives of disease as a subset of a broader wound category. Be that as it may, for our purposes it suffices to note that whatever identification the author makes between wound and disease, it is counterfactual. Someone \textit{might} make this sort of argument, which “has a certain plausibility,”

\textsuperscript{73} Caus. Morb. 2 (VII.37 K.), καλεῖν μὲν οὖν εἰσθα τὸ γένος τοῦτο σύμπαν ἑνώσεως λόσιν, ἢ διαφθοράν ἑνώσεως, ἢ συνεχείας λόσιν, ἢ ὅπως ἰν ἄλλοις ἐλλείπον τὸν λόγον σωφρ έκεινη τοις ἀκούσαν. οὐδέν γὰρ ὅνομα κατ᾿ αὐτὸν κεῖμενον ὑπὸ τῶν ἐμπορεύσθην παρελάβομεν, ὡσπερ επὶ τινων εἰδών αὐτοῦ κάταγμα μὲν καὶ τερηδόνια τῆς ἐν ὦστῳ συνεχείας διαιρουμένης, ἐλκος δὲ καὶ τραύμα τῆς ἐν σάρκι.

\textsuperscript{74} It also affords Galen the opportunity to rehearse his dismissal of mere terminological distinctions. See MM 2.1 (X.80–81 K.).

\textsuperscript{75} Flat. 1.20–23 = 6 92.6–8 Litré, “Hunger is a disease. For whatever distresses a human being, this thing is called disease. So what is the remedy for hunger? What stops hunger; and this thing is eating. So it is by this that hunger must be cured.” (αὐτίκα γὰρ λιμός νοοῦσας ἐστίν· οὐ τί γὰρ ἐν λυπῆ τὸν ἀνθρώπον, τοῦτο καλέται νοοῦσας· τί οὖν λιμόφαρμοκον; οὐ παύει λιμόν· τοῦτο δ᾿ ἐστὶ βρόδες· τοῦτο ἄρα ἐκεῖνο ἱερόν.) Flat. 1.20–26 contains other examples of allopathic treatments: drinking for thirst, depletion for repletion, repletion for depletion, rest for exhaustion.

\textsuperscript{76} Fract. 31.20–23 = 3 526.6–11 Litré, τίνι γὰρ οὖν ἐπικοινωνοῦν τῶν ἐπικαρποτάτων ἐν ἱπτρικῇ, οὐ κατὰ τὰ ἑλκεῖα μοῦνον, ἄλλα καὶ κατὰ ἄλλα πολλά νοσημάτα; ἤ μὴ τις φήσει καὶ τάλλα νοσημάτα ἑλκεῖ εἶναι. ἔχει γὰρ τινα καὶ οὕτως ὁ λόγος ἐπικείεσθαι· πολλαχῆ γὰρ ἠδέλφωσται τὰ ἔτερα τούς ἐπέρεσον.
but the author does not claim that anyone has done so.\textsuperscript{77} Galen discusses this passage in his commentary on the Hippocratic \textit{Fractures}, but he is at pains to explain the underlying argument in its lemma.\textsuperscript{78} Galen’s exegetical difficulties are indirect evidence for the exceptionality of this passage, especially given that he avails himself of no other ancient source, Hippocratic or otherwise, to explain or to dismiss the view.\textsuperscript{79}

Galen’s classification of these conditions under a single genus can be explained partly on theoretical grounds. As with the other two highest genera of disease, Galen classifies dissolutions according to internal causes: they result from a separation in an otherwise continuous physical surface. He also classified them according to the afflicted part (e.g., fractures in bones, lesions or wounds in flesh, ruptures or tears in nerves and sinews).\textsuperscript{80} Here Galen implicitly acknowledges that \textit{prokatarktic} factors have some relevance to how different conditions in the class are identified, although perhaps only in relation to other members of the same class:

To put it briefly, all the causes of diseases of this type [sc. dissolutions] take their starting point either from outside [the body] or from the body itself. All those that have an external genesis are the sort that wound or crush, whereas the ones arising from the body itself are violent and irregular movements of the animal, or any humoral pathologies of the sort that eat away [at the flesh].\textsuperscript{81}

Whether the causal chain leading to the dissolution begins externally or internally does not appear to have played a significant role in its classification or, importantly, in its treatment. The distinction between dissolutions caused by wounding or crushing has semantic but not taxonomic difference. Given the importance of \textit{proēgoumenic} causes in Galen’s classification of \textit{dyskrasiai} and organic diseases, as well as the limited taxonomic relevance of \textit{prokatarktic} causes, it should come as no surprise that

\textsuperscript{77} It is also worth noting that even when the Hippocratic author draws attention to the similarities between wound and disease, the two classes are distinct from one another in the Greek (e.g., τὰ ἔτσι κατὰ τῶν ἐπέρευσεν).

\textsuperscript{78} \textit{Hipp.Fract.} 3.34 (XVIIIb.585–87 K.). Galen attributes two arguments to the Hippocratic author. First, painful diseases belong to the class of dissolutions, because they arise as a result of lacerations, contusions, and tears but also from dyskratic conditions. The author means that painful diseases belong to the same genus as wounds, since both fall under the broader class of dissolutions of continuity. Second, the author has merely overgeneralized from some cases to all cases.

\textsuperscript{79} Typically Galen describes his own intellectual practice as hermeneutic. By his own account, the sources of most medical knowledge lay in the Greek past. Consequently, examination and exegesis of the Greek medical tradition were activities central to his work and the work of educated physicians whose aim was scientific (re)discovery. Given this attitude, it seems at first surprising that Galen does not ground the class of dissolutions in the earlier Greek medical tradition, as indeed he might have tried to do using \textit{Fractures}.

\textsuperscript{80} See \textit{Morb.Diff.} 11 (VI.872 K.); \textit{Caus.Morb.} 10–11 (VII.37–40 K.); \textit{MM} 4.1 (X.232 K.), 6.1 (X.385 K.), and passim.

\textsuperscript{81} \textit{Caus.Morb.} 11 (VII.40 K.), συνελόντι δὲ φάναι, πάντα τὰ τοιούτου γένους τῶν νοσημάτων αἵτια τὰ μὲν ἐξωθέν ὀρμάτα, τὰ δὲ ἐξ αὐτοῦ τοῦ σώματος ἐξωθέν μὲν διὰ περώσκειν ἢ θλάν πέφυκεν, ἐξ αὐτοῦ δὲ τοῦ σώματος ἐμπρόετο τε καὶ ἀπαρκοῦ κινήσεις τοῦ ζῶου, καὶ τινὲς ψυχῶν μοχθηρίας διαμιμήσεις πεφυκόλα.
internal causes were primary taxonomical criteria in Galen’s system of disease. At a general level of classification, it elides the distinction between a cut caused by a gladiator’s sword and a sore caused by internal putrefaction.82

CONCLUSIONS

In the absence of models of health and disease that conceive of external pathogens, earlier Greco-Roman accounts overwhelmingly locate disease inside the body. It is therefore unsurprising that these internalist models did not include wounds, fractures, and other bodily ruptures, since these conditions are often distinguished from other ailments precisely according to external causal factors. Thus, it is remarkable that Galen not only included such conditions in his disease taxonomy but did so as a main taxonomical class. Since, on his view, a disease is any unnatural condition that perceptibly damages the body’s activities, Galen was not only encouraged to conceptualize wounds and other bodily ruptures as diseases, he was required to do so. However, this conclusion does not explain the status of dissolutions as an independent taxonomic class.

Galen’s causal theory placed a premium on the explanatory value of internal, proëgoumenic causes in medical contexts. His ontology of disease and, therefore, its taxonomy is a fundamentally internal affair. Consequently, the extrinsic nature of prokatartikic causes motivated him to consider external causes as peripheral to his essentialist disease classification. This observation can be obscured by the importance of prokatartikic causes to Galen’s broader theory of causation, by its powerful role in effective medical diagnosis, and by externalist tendencies in our own attitudes toward disease. Even if the external causal factors that semantically distinguish wounds and similar traumas from other ruptures in the body were often reflected in ordinary Greek language usage, for Galen they lacked taxonomic relevance.

Stripped of their external causes, these conditions share a common kind of internal cause, which did have taxonomic relevance: whether at the level of organ or tissue, all these ruptures are caused by the interruption of a bodily surface. This point is key. Galen’s taxonomic differentiae reflect essential differences of disease. Since the site of affliction was not a distinguishing characteristic of dissolutions, they were disqualified as members of the two classes for which site of affliction was a differentia. The functional terms of Galen’s definition of disease entail that wounds are diseases for the same reasons that colds and fevers are diseases. The exigencies of Galen’s taxonomic method ensured that dissolutions of continuity would be in a class by themselves.

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82. Both “wound” and “lesion” often translate the same Greek word, “ἕλκης,” which is vague precisely in respect to whether the cause of the pathological condition is external or internal. If my thesis about Galen’s classification of dissolutions is correct, Galen may be articulating broadly Greek intuitions that account for the vagueness of “ἕλκης.”
BIBLIOGRAPHY


