

CHAPTER 12

Galen on the chances of life

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On the subject of nature, Galen was an indomitable optimist. He embraced the claim made in Plato's cosmological magnum opus, the *Timaeus*, that the world and everything in it were created by an intelligent Demiurge, and he never grew tired of admiring the creator's handiwork. He accepts, with equal enthusiasm, Aristotelian teleology, according to which each part of an organism is oriented toward an end (*telos*) – namely, the life proper to that organism. For Galen, every part of the human body has been created “so that it would not have been better had it come into being differently” (ὡς οὐκ ἄν, εἴπερ ἑτέρως ἐγεγόνει, διέκειτ' ἄν ἄμεινον).¹ His monumental hymn to Nature, *On the Usefulness of Parts*, is nothing less than an attempt to prove this claim. Throughout his vast corpus of writings Galen is passionately committed to the intelligence of Nature and the boundless foresight with which “she” enables us to live and thrive.

Yet, at the same time, Galen did not believe that the Demiurge had created a perfect world. In a well-known critique of the God of Moses, one that echoes the *Timaeus*, he emphasizes that the Demiurge achieves the best results he can, given the material conditions under which he has to work.² These conditions mean, among other things, that the organism's continued survival is never guaranteed in advance. It is always, rather, only a likely outcome, and therefore firmly grounded in the domain of probabilities. As it turns out, there are many ways in which things can go wrong. To the

I am grateful to audiences at the *Eikos* workshop in Toronto, the “Approaches to Ancient Medicine” conference in Exeter in August 2011, and the “Medical Powers” conference held at Oxford in September 2012 for their feedback on earlier versions of this study, and especially to Anna Marmodoro, Jim Hankinson, Philip van der Eijk, and Chris Gill. I would also like to thank David Leith, David Kaufman, and Victoria Wohl for their helpful responses to the written chapter.

¹ Gal. *UP* 1.5 (III 9 K = 6,21–22 Helmreich). Abbreviations for Galen's texts follow Hankinson 2008: 391–97, which also includes information on modern editions.

² Gal. *UP* 11.14 (III 906 K = 158,23–26 Helmreich). On Galen's teleology, see Hankinson 1989, Schiefsky 2007. For the application of the “best possible world” principle to the human body in the *Timaeus*, see Burgess 2000.

extent that Galen was, first and foremost, a physician, he was exceptionally well acquainted with the malfunctioning of the human organism.

Galen navigates, then, between an unwavering belief in Nature's intelligence and self-sufficiency and a professional interest in the rich spectrum of organic failure. These apparently conflicting commitments can be better understood as mapping the two poles of the natural world as Galen sees it: on the one hand, a deck stacked in favor of life by virtue of the Demiurge's intentions; on the other, the labile materiality of mixtures. Between them lies the terrain where the flourishing of life is a probable outcome. It is a space of dynamic open-endedness, the space of the live body, not the dead one, of physiology, not anatomy.³ If we are interested in the probabilities that govern human life, we should begin here, with the conditions that make life itself probable in the first place.

All organic life is open-ended. Yet open-endedness is *especially* true of human life. The reason, for Galen, as for a number of ancient medical and moralizing authors, is that the space of probable flourishing is open to our interventions in it and, more specifically, our impact on the material conditions of life. What the embodied agent does or does not do – for example what he eats, how he exercises, how he sleeps, whether he worries or grieves excessively – can tilt the odds toward flourishing or disease, life or death. The odds are affected, too, by the actions of the physician. The success of these interventions depends, in part, on the self-control of the embodied agent (whether he indulges his appetites, whether he keeps to a regimen). Here, open-endedness correlates with ethical possibility. But success also depends on how much we as humans can ever know about how to maintain our vital being. Here, the open-endedness of organic life remains stubbornly open because of the constraints on our capacity for mastery and, more specifically, our capacity to understand the workings of life.

Galen was, in fact, highly self-conscious about what he perceived as the limits on our understanding of certain things, such as the nature of the soul and the translation of Demiurgic intentions into the immanent teleological intelligence of non-conscious life. In these areas he is aware that our accounts are, at best, plausible, but still only probable, falling short of certainty.⁴ More than once he qualifies his own account by invoking

³ See Debru 2008: 280–81. As Debru observes, the more Galen moves from anatomy to physiology, the more his accounts “become nuanced, complex and plausible only.”

⁴ The account that is plausible, probable, persuasive, reasonable – for which Galen prefers to use the language of *to pithanon*, rather than *to eikos* – is sometimes opposed to what is mistaken (*mokbthēron*), as at *SMT* 2.5 (XI 474 K). But the language of plausibility can also be negatively inflected. It may designate something that is plausible but untrue, as at *Prop. Plac.* 11 (182,23 Boudon-Millot and

the *locus classicus* of the “likely” story (*eikōs muthos*, *eikōs logos*), that is, the moment in Plato’s *Timaeus* when the eponymous narrator offers up a likely story of the creation of the cosmos.⁵ On other occasions he despairs of finding even a probable story to tell about how the plan of the Demiurge is actualized in living beings. The question of probability thus concerns not just the success or failure of organic life, but also the stories we tell about it.

In what follows I first demonstrate Galen’s commitment to probable flourishing against models of nature and the body that privilege the forces of chance and necessity, considering in particular his struggle to define the nature of the purposefulness of non-conscious or what I will sometimes call vegetal life. Such an inquiry is important to understanding how Galen uses teleology to account for the likelihood of flourishing. I go on to consider the reasons why such immanent purposefulness is not sufficient to guarantee life. The most important consequence of such insufficiency is the emergence of a space of ethical agency, where human beings take responsibility for the care of their own lives by making use of the resources of medicine to mimic and complete the technical labor of Nature.⁶

It is precisely the space of ethics that defines human life against vegetal life, where life does not *choose* to live, even as it unfolds with a sense of purpose and “technical” skill.⁷ Yet, at the same time, human life comprises vegetal life – that is, the non-conscious body – and depends on it. In the final

Pietrobelli); *Sem.* 2.5.15 (IV 629 K = 182,16 De Lacy). At *Sem.* 1.1.2 (IV 512 K = 64,9–11 De Lacy), Galen seeks arguments that rely not on plausibility but on clear demonstration (*ex enargōn te kai di’ enargōn*). Galen draws a similar distinction between logical demonstration and arguments from *eikos* at *Pecc. Dig.* 7.10 (V 101–102 K = 67,21–23 De Boer).

⁵ Gal. *Prop. Plac.* 13 (IV 759 K = 186,37 Boudon-Millot and Pietrobelli): *akhri tou pithanou kai eikotos autēn proerkhesthai phēsi*. He uses the same expression (*[akhri] tou pithanou kai eikotos*) three times at *PHP* 9.9.3–7 (V 792–93 K = 598,9, 20, 26 De Lacy), where he quotes from the *Timaeus*. On the *eikōs muthos*, see esp. Pl. *Ti.* 29c4–d3. Several recent interpretations (Burnyeat 2005, Bryan 2012: 114–60) have sought to show that the “likely story” should be understood as a positive achievement, rather than something “merely” probable; but it seems that for Galen, the probable account represents an (undesirable) epistemological limit. For the expression *akhri tou pithanou*, see also *Nat. Fac.* 1.14 (II 55 K = 141,17 Helmreich); *PHP* 9.7.12 (V 794 K = 600,22 De Lacy); *Prop. Plac.* 13 (IV 760 K = 186,37 Boudon-Millot and Pietrobelli), 15 (IV 764 K = 190,6 Boudon-Millot and Pietrobelli). Note that while I translate *to pithanon* as “probable,” in some contexts it may mean something closer to “persuasive.”

⁶ I have argued elsewhere that such an ethical space first appears in Hippocratic medicine: Holmes 2010: 192–227.

⁷ Galen tends to work with the Stoic-inspired division of living into two categories: the works of nature (*phusis*) and the works of the soul (*psukhē*): see von Staden 2000: 102, 107–11. Indeed, *On the Natural Faculties* begins with this division: *Nat. Fac.* 1 (II 1 K = 101,4–5 Helmreich). Galen was aware that what he was calling nature could also be called the “appetitive” soul (by Platonists) and the “nutritive” soul (by Aristotelians): see, e.g., *Foet. Form.* 3.13 (V 665 K = 68,12–17 Nickel); *PHP* 6.3.7 (V 521 K = 374,13–19 De Lacy); *Prop. Plac.* 3 (174,16–19 Boudon-Millot and Pietrobelli), 13 (185,38–186,1 Boudon-Millot and Pietrobelli).

section I take a look at some of Galen's reflections on the discontinuity of vegetal life and ethical life within human nature. I conclude by arguing that such discontinuity leaves its trace in the probable nature of Galen's stories about the nature of immanent intelligence, as well as in the uncertainty that characterizes the relationship of every embodied subject to his or her vital being.

Immanent teleology

We saw above that Galen professed throughout his career a strong commitment to the idea that Nature and individual natures are organized by a guiding intelligence. What Mark Schiefsky has labeled Galen's "biological functionalism" is especially visible in the massive tome *On the Usefulness of Parts*, in which Galen finds purpose in every last structure of the human body.⁸ It is equally visible in *On the Natural Faculties*, where Galen goes beyond anatomical structure to inquire into the faculties (*dunameis*) that sustain the organism. If I focus here on *On the Natural Faculties*, it is because it offers one of the clearest pictures of the larger stakes underlying Galen's philosophical position, as well as some of the difficulties that position poses.

The subject matter of the treatise appears, at first glance, dry: the three-fold activities of nature (*phusis*) in a living body, generation, nutrition, and growth. Yet it is not long before we realize that these subjects touch a raw nerve for Galen. Having embarked on the topic of nutrition, Galen veers into a heated discussion of the two opposed sects of those with something to say about nature (*tōn apophēnamenōn ti peri phuseōs andrōn*):⁹

τίνες οὖν αἱ δύο αἰρέσεις αὐται καὶ τίς ἡ τῶν ἐν αὐταῖς ὑποθέσεων ἀκολουθία; τὴν ὑποβεβλημένην οὐσίαν γενέσει καὶ φθορᾷ πᾶσαν ἠνωμένην θ' ἅμα καὶ ἀλλοιοῦσθαι δυναμένην ὑπέθετο θάτερον γένος τῆς αἰρέσεως, ἀμετάβλητον δὲ καὶ ἀναλλοιώτων καὶ κατατετμημένην εἰς λεπτὰ καὶ κεναῖς ταῖς μετὰξὺ χώραις διειλημμένην ἢ λοιπή.

What, then, are these two sects and what is the logical outcome of their hypotheses? The first type of sect posits that all substance subject to genesis and corruption is at once continuous and capable of alteration. The other believes that substance is unchangeable, unalterable, and subdivided into fine particles and separated by empty spaces in-between. (*Gal. Nat. Fac.* 1.12 [II 27 K = 120,14–21 Helmreich])

⁸ Schiefsky 2007: 388–91.

⁹ *Gal. Nat. Fac.* 1.12 (II 27 K = 120,8–9 Helmreich). On the "historiographical strategy" in play here, see Vegetti 1999: 389–95. See also, e.g., *Caus. Morb.* 1 (VII 1–2 K).

The “logical outcome” of these respective ontological positions is far-reaching. The corpuscular theorists, Galen argues, deny that we can assign a role to Nature or Soul. Everything depends, rather, on small bodies interacting below the threshold of perception. These theorists hold that we are nothing more than cattle, enslaved to the impressions of our senses. They deny dreams, birds, omens, and the whole of astrology: the gods, after all, could not care less about us. They think wisdom and temperance and filial love are all nonsense (*lēros*). By contrast, the other sect puts Nature first and foremost ontologically. It is Nature who creates plants and animals, Nature who endows creatures with the faculties that they need to survive and flourish according to their respective natures, including the faculties of caring for offspring, forming friendships, and developing moral judgments. Nature, according to this philosophy, does everything with skill and order (*tekhnikōs kai dikaiōs*), always keeping in mind the best outcome for the organism.¹⁰

Galen, unsurprisingly, is not shy about pledging his allegiance to the second sect. In other treatises he argues that the very structure of the human body gives a clear indication (*endeiknusthai*) of the wisdom and power of the one having created it, making the existence of the Demiurge a necessary conclusion.¹¹ Needless to say, Galen finds fatally improbable the arguments of those who claim that the body was created by “unskilled and irrational chance” (*kata tina tukhēn atekhnon kai alogon*).¹² It is not “by chance or without reason” (*ou . . . hōs etukhen oud’ alogōs*), he argues in *On the Natural Faculties*, that Nature has created the uterus in such a way that it contracts around and retains the embryo for a certain amount of time, nor is it “at random and by chance” (*ou . . . eikēi ge kai hōs etukhen*) that there are fossae of a certain narrowness between the ventricles of the heart.¹³ The foresight and the purpose of the Demiurge are evident even in the slime of the body.

The strongest evidence by far, however, for the intelligence and purposefulness of Nature comes from the activities (*energeiai*) responsible for creating and sustaining life – genesis, growth, and nutrition – and the “natural faculties” (*phusikai dunameis*) that lie behind them. It is just these faculties that are denied by corpuscular theorists, who argue that nature

¹⁰ Gal. *Nat. Fac.* 1.12 (II 29 K = 122,9 Helmreich).

¹¹ Gal. *Foet. Form.* 6.2 (V 687 K = 92,3–5 Nickel). See also *Foet. Form.* 6.19 (V 695 K = 98,24–26 Nickel); *PHP* 9.8.3–27 (IV 783–91 K = 590,20–596,29 De Lacy); *UP* 17.1 (IV 360–61 K = 447,16–448,3 Helmreich), with *endeixis*.

¹² Gal. *PHP* 9.8.4 (IV 783 K = 590,22–23 De Lacy).

¹³ Gal. *Nat. Fac.* 3.3 (II 148 K = 207,25–26 Helmreich), 3.15 (II 208 K = 252,11–12 Helmreich).

does not pre-exist and direct the formation of a complex body but rather emerges from a conglomeration of primary elements that lack any creative powers, that is, the powers to shape, increase, and nourish the organism. Moreover, these elemental micro-bodies are impassive and unchanging, making genuine genesis, growth, and nourishment impossible.¹⁴ Those who would defend a corpuscular position are forced to accept that living beings come together randomly and the processes that sustain life are without *tekhne*. Everything here, Galen alleges, is chance and necessity.

How do the corpuscular arguments work? Galen's attacks here are directed mostly toward two physicians who explained activities such as nutrition or urinary secretion in terms of overarching mechanistic principles, rather than innate faculties: Asclepiades of Bithynia (late second or early first century BCE) and Erasistratus of Ceos, the third-century BCE Alexandrian anatomist. Asclepiades reduced everything that happens in the body to the movement of invisible corpuscles (*onkoi*) through invisible passages or, more likely, voids (*poroi*).¹⁵ The dominant principle governing these small bodies is what he called "movement towards what is fine" (*pros to leptomeres phora*). In the case of urinary secretion, for example, Asclepiades treats the bladder as nothing but a sponge that absorbs the fluid we drink in the form of vapors.¹⁶ In other words, he finds the material composition of the bladder (its being porous) sufficient to explain the fact that urine collects in it: no immanent skill or intelligence necessary. Matter is, at its heart, undifferentiated, unshaped by purpose, and responsive only to the dictates of mechanistic necessity.¹⁷ Erasistratus' position is more complicated, insofar as he seems to have adopted some form of Aristotelian teleology.¹⁸ Still he too, according to Galen, eschewed the natural faculties, relying instead on the principle of "movement toward the void" (*pros to kenoumenon akolouthia*) to account for everything that happens in the body.

Galen does not deny the Erasistratean principle of *horror vacui* altogether. Later in *On the Natural Faculties* he accepts that there are two kinds of attraction: one by which a vacuum is filled, the other by which particular types of matter are attracted by particular bodies or parts of bodies. The

¹⁴ Gal. *Nat. Fac.* 2.6 (II 100–101 K = 174,13–23 Helmreich). On the impassivity of the corpuscles, see also Gal. *Hipp. Elem.* 2.17 (I 418–19 K = 62,4–13 De Lacy), with Leith 2013.

¹⁵ Leith 2012 convincingly argues that Asclepiades is referring to interstitial void with the term *poros*. See further, on the *onkoi*, Leith 2009.

¹⁶ On the permeability of the parts of the body in Asclepiades, see Leith 2012: 183–84.

¹⁷ See Vallance 1993: 699–701.

¹⁸ Gal. *Nat. Fac.* 2.6 (II 102 K = 175,5–6 Helmreich), 2.7 (II 106 K = 178,13 Helmreich). On the difficult question of Erasistratus' relationship to Aristotle and the Peripatetics, see esp. von Staden 1997, Cambiano 2000. See further Lonie 1964: 441–43, Scarborough 1985.

first type is illustrated by air drawn into a bellows; the second, by the lodestone's attraction of iron.¹⁹ Both kinds of attraction are used by Nature in arranging the body of the animal for the best. But it is the second type of attraction, that based on "appropriateness of quality" (*oikeiotēs poiōtētos*), that most spectacularly exhibits Nature's providential reasoning. And to explain this type of attraction you need the natural faculties.

So what are the natural faculties? For one thing, unlike anatomical structures, they cannot be seen directly. Galen classifies them formally as a type of cause (*aitia*), the presence of which has to be inferred through its visible products (e.g. flesh or blood) and the activities (*energeiai*) it makes possible.²⁰ In this respect, the faculties resemble the Demiurge himself, who is glimpsed in the goal-directed behavior of his creations. The resemblance goes deeper still. Like the master creator, the essence of the natural faculties is unknown.²¹ In fact, the relationship between the Demiurge and the natural faculties is not just analogical but direct; for it is through the activities of the faculties – and especially the attractive faculty and the expulsive faculty – that the Demiurge's plan comes to be enacted within the life of an individual organism.

What allows the natural faculties to translate the Demiurge's creative intelligence into the immanent purposefulness of non-conscious life is their capacity to differentiate between kinds of matter and, more specifically, between what is appropriate (*oikeion*) and what is foreign (*allogrion*) to the organism; for these capacities are crucial to the organism's basic task of self-maintenance, given that it is in a constant state of flux. If it is to succeed in conserving its particular being, a body needs to know how to replace what is lost with matter it can assimilate to itself (*to oikeion*). At the same time, whatever it cannot make its own or whatever has become not-self (*to allogrion*) has to be eliminated. Without these powers of discrimination, life, Galen believes, is impossible to sustain.

Yet does the discriminating work of the faculties exhibit actual intelligence or intentionality? The difficulty one runs into with such language is made clear in an analogy from the second book of *On the Natural Faculties*, in which Galen is trying to explain the generative power of the male seed. He starts off by likening the seed to the famous sculptor Pheidias. Both possess the faculties of *tekhnē*, which are activated when they meet with the

¹⁹ Gal. *Nat. Fac.* 3.15 (II 206 K = 251,5–6 Helmreich).

²⁰ Gal. *Nat. Fac.* 1.2 (II 6–7 K = 105,13–16 Helmreich).

²¹ Gal. *Nat. Fac.* 1.4 (II 9–10 K = 107,14–20 Helmreich). For Galen's uncertainty about the nature of the Demiurge, see *Foet. Form.* 6.2–3 (V 687–88 K = 92,5–9 Nickel), 6.20–23 (V 695 K = 98,26–100,10 Nickel).

proper material (wax and female generative matter, respectively). Pheidias is external to what he creates, and so is the seed, at least in the beginning. But here is where the analogy starts to run into trouble; for the seed, as soon as it begins to work on the matter, *becomes* the nature of the animal, no longer external to the material.²² And this makes it very different from the craftsman:

ἡ γὰρ διαπλάττουσα τὰ μόρια φύσις ἐκείνη καὶ κατὰ βραχὺ προσαύξουσα πάντως δῆπου δι' ὅλων αὐτῶν ἐκτέταται· καὶ γὰρ ὅλα δι' ὅλων οὐκ ἔξωθεν μόνον αὐτὰ διαπλάττει τε καὶ τρέφει καὶ προσαύξει. Πραξιτέλης μὲν γὰρ ἢ Φειδίας ἢ τις ἄλλος ἀγαματοποιὸς ἔξωθεν μόνον ἐκόσμου τὰς ὕλας, καθὰ καὶ ψαύειν αὐτῶν ἠδύναντο, τὸ βάθος δ' ἀκόσμητον καὶ ἄργον καὶ ἄτεχνον καὶ ἀπρονόητον ἀπέλιπον, ὡς ἂν μὴ δυνάμενοι κατελθεῖν εἰς αὐτὸ καὶ καταδῦναι καὶ θιγεῖν ἀπάντων τῆς ὕλης τῶν μερῶν. ἡ φύσις δ' οὐχ οὕτως, ἀλλὰ τὸ μὲν ὅσοῦ μέρος ἅπαν ὅσοῦν ἀποτελεῖ, τὸ δὲ σαρκὸς σάρκα, τὸ δὲ πιμελῆς πιμελὴν καὶ τῶν ἄλλων ἕκαστον· οὐδὲν γὰρ ἐστιν ἄψαυστον αὐτῇ μέρος οὐδ' ἀνεξέργαστον οὐδ' ἀκόσμητον.

For this Nature which forms the parts and adds to them little by little is most assuredly extended throughout their whole substance. Yes indeed, she [i.e. Nature] forms and nourishes and increases the parts through and through, not only on the outside. For Praxiteles and Pheidias and all the other sculptors used to fashion their materials only on the outside, insofar as they were able to touch them, but they left the inner depth unfashioned and unwrought and unaffected by art or foresight, because they were not able to get down into it and reach and touch all the parts of the material. But this is not the case with Nature. Rather, she succeeds in making every part of bone bone, every part of flesh, flesh, every part of fat, fat, and so on and so forth for the rest. Indeed, there is no part that is untouched, unworked, or unfashioned by her. (Gal. *Nat. Fac.* 2.3 [II 82 K = 160,10–24 Helmreich])

In the shift from the craftsman-seed to Nature, then, we move from an externalized skill to immanent knowing.

Yet even before this shift, there is a problem in equating the seed with the craftsman. Galen compares the two as artificers, insofar as each determines how much of the material in question is appropriate, since neither the blood nor the wax can discover how much of itself to contribute. But the seed's capacity to attract an appropriate amount of material falls short of an actual judgment. We must be on guard, Galen cautions, "lest we attribute some kind of reasoning and mind to the seed" (μὴ πως λάθωμεν τῷ σπέρματι λογισμόν τινα καὶ νοῦν χαρισάμενοι).²³ That attribution, he

²² Gal. *Nat. Fac.* 2.3 (II 83 K = 161,16–17 Helmreich).

²³ Gal. *Nat. Fac.* 2.3 (II 85 K = 162,15–16 Helmreich).

goes on, would be a category mistake. For we would be talking not about the seed or Nature but about the living animal itself (*zōion auto*).²⁴ Instead of mind, Galen turns to an attractive faculty just like that exhibited by the lodestone when it attracts iron to explain the apparently “knowing” behavior of the seed in relationship to the generative material. The seed continues to drive the creation of the embryo through the alterative and shaping faculties.

It should be said that Galen was not himself always entirely happy with such an explanation. In *Formation of the Fetus* he struggles to accept that the natural faculties can fully account for the sperm’s capacity to shape – or rather, to become – a nature, precisely because they are not just unwise but entirely without reason (οὐ μόνον οὐκ οὔσαν σοφίην, ἀλλὰ καὶ παντᾶ-
πασιιν ἄλογον).²⁵ The gap between Demiurgic intelligence and the natural faculties here seems too great: some mediating skill or agent is needed, yet Galen struggles to supply it. Galen faces a similar problem in *On My Own Opinions*, where he wonders what allows plants to discriminate between what is appropriate and what is foreign in the process of maintaining their being (an activity explained by the natural faculties elsewhere).²⁶ He concludes that plants must possess a rudimentary form of sensation (*aisthēsis*), recalling Plato’s position in the *Timaeus* (77a), against centuries of Aristotelian and Stoic thinking on the subject, as well as his own thinking in *On the Natural Faculties*.²⁷ Here again, the knowingness exhibited by the plant eventually prompts Galen to find ways to bring the vegetal stratum closer to something like mind.

In *On the Natural Faculties*, however, Galen relies on the natural faculties to do the work of maintaining life at the vegetal level. He accounts for their

²⁴ Elsewhere, he notes that there are physicians who do believe that parts of the body (e.g. muscles) function like animals: Gal. *Foet. Form.* 5.8–10 (V 690–91 K = 94,21–96,4 Nickel). Though Galen does not accept this position, he expresses some sympathy with it at *Foet. Form.* 6.23 (V 696 K = 100,17–20 Nickel).

²⁵ Gal. *Foet. Form.* 6 (V 700 K = 104,19–20 Nickel). The chapter offers the richest discussion of how we get from the Demiurge to immanent purposefulness. Galen there also rejects the model whereby the Demiurge is like a craftsman who devises theatrical effects, transmitting motions to a machine that then moves by his design for a limited amount of time (*Foet. Form.* 6.5 [V 689 K = 94,1–2 Nickel], 6.12 [V 692 K = 96,14–16 Nickel]). Galen finds the theory improbable for the reason that he thinks it unlikely irrational substance could conserve by itself the transmission of skilled movements so perfectly. On “wind-up machines,” see also *Sem.* 1.5.24 (IV 533 K = 84,1–4 De Lacy).

²⁶ Gal. *Prop. Plac.* 15 (IV 764–66 K = 189,17–190,16 Boudon-Millot and Pietrobelli). For these faculties in plants, see Gal. *Prop. Plac.* 3 (174,5–9 Boudon-Millot and Pietrobelli), 9 (181,21–25 Boudon-Millot and Pietrobelli).

²⁷ Gal. *Nat. Fac.* 1 (II 1–2 K = 101,1–5 Helmreich). On Aristotle, see Arist. *De An.* 414a32–b2, *Part. An.* 666a34. On the Stoics: Clem. Al. *Strom.* VIII 10.4, Diog. Laert. 7.86. See further Nutton 1999: 216–17.

capacity to discriminate between different types of matter by invoking, albeit implicitly, a pair of concepts that had found widespread applicability by the second century CE – namely, sympathy and antipathy. Galen's choice of such a model has important consequences for how the purposefulness of the natural faculties is conceptualized.

Sympathy plays a starring role in the confrontation that Galen stages between the continuum theorists and the atomists. There, Galen pits the body that “breathes together and flows together and suffers together,” an image he gets from the pseudo-Hippocratic treatise *On Nutriment* (c. third century BCE or later) and proudly labels as Hippocratic,²⁸ against the fragmented worlds, both macrocosmic and microcosmic, of the atomists.²⁹ Galen makes the affirmation of a “kind of unity of substance” (*henōsis tis tēs ousias*) one of the prerequisites for recognizing Nature's “technical” power; sympathy is part of what guarantees this unity.³⁰ As Armelle Debru writes, “Galen's thought is shot through with the notion that the general intercommunication within and synergy of actions in the organism creates from it a unity, which accounts for our being able to speak of it as a ‘system’.”³¹ By contrast, the *denial* of sympathy sums up the problems with a corpuscular ontology.³² In this respect, sympathy is a consummate expression of what Christopher Gill has called the “high naturalism” that Galen shares with the Stoics, that is, a philosophy of nature committed to an organizing intelligence in the cosmos and resistant to assigning much weight to chance and necessity.³³

²⁸ See *Nutr.* 23 (IX 106 Littré): “There is one confluence; there is one common breathing; all things are in sympathy. All the parts as forming a whole, and severally the parts in each part, with reference to the work” (ξύρροια μία, ζύμπνοια μία, ζυμππαθέα πάντα· κατά μὲν οὐλομελίην πάντα, κατά μέρος δὲ τὰ ἐν ἐκάστω μέρει μέρεα πρὸς τὸ ἔργον). Note that virtually all modern scholars concur that the text is Hellenistic or later, in part because of the Stoic influence: see Diller 1936, Deichgräber 1973: 69–75, Joly 1975, Jouanna 1999: 401. Galen, however, seems not to have doubted its Hippocratic provenance: see also the citation of *Nutr.* 34 (IX 110 L) at *Protr.* (I 25 K) – a reference I owe to David Leith – and the citations in the next note.

²⁹ See *Gal. Nat. Fac.* 1.12 (II 29 K = 122,7–9 Helmreich), 1.13 (II 38 K = 129,7–9 Helmreich), cited again at 3.13 (II 196 K = 243,10–13 Helmreich). Galen returned to the maxim often: see *Caus. Puls.* 1.12 (IX 88 K); *MM* 1.2 (X 16 K); *Trem. Palp.* (VII 616 K); *UP* 1.8 (III 17 K = 1.12 Helmreich), 1.9 (III 24 K = 1.17 Helmreich). On the importance of continuity in Galen's philosophy of the body, see De Lacy 1979, Jouanna 2003, Debru 2008.

³⁰ *Gal. Nat. Fac.* 2.6 (II 100 K = 174,6–7 Helmreich). ³¹ Debru 2008: 275.

³² According to Asclepiades, “nothing is naturally in sympathy with anything else, all substance being divided and broken up into inharmonious elements and absurd ‘molecules’” (κατὰ δὲ τὸν Ἀσκληπιάδην οὐδὲν οὐδενὶ συμπαθὲς ἔστι φύσει, διηρημένης τε καὶ κατατεθραυσμένης εἰς ἀναρμα στοιχεῖα καὶ ληρώδεις ὄγκους ἀπάσης τῆς οὐσίας, *Gal. Nat. Fac.* 1.13 [II 39 K = 129,7–9 Helmreich]).

³³ Gill 2010: 77–79.

Moreover, sympathy is important for explaining how Nature expresses its unique “technical” intelligence in relationship to the living being:³⁴

καὶ ἡ φύσις ἅπαντα τεχνικῶς καὶ δικαίως πράττει δυνάμεις ἔχουσα, καθ’ ὅς ἕκαστον τῶν μορίων ἔλκει μὲν ἐφ’ ἑαυτὸ τὸν οἰκεῖον ἑαυτῷ χυμὸν, ἔλξαν δὲ προσφύει τε παντὶ μέρει τῶν ἐν αὐτῷ καὶ τελέως ἑξομοιοῖ, τὸ δὲ μὴ κρατηθὲν ἐν τούτῳ μηδὲ τὴν παντελῆ δυνήθην ἀλλοιώσιν τε καὶ ὁμοιότητα τοῦ τρεφομένου καταδέξασθαι δι’ ἑτέρας αὖ τινος ἐκκριτικῆς δυνάμεως ἀποτρίβεται.

And Nature accomplishes everything in an artistic and just manner, possessing faculties according to which each of the parts attracts to itself the humor that is proper to it, and then in turn attaches it to every portion of itself and entirely assimilates it, while that which has not been mastered in this humor nor is capable of being totally altered and assimilated to what is being nourished is expelled by means of another faculty, an expulsive one. (Gal. *Nat. Fac.* 1.12 [II 29–30 K = 122,9–16 Helmreich])

Galen seems to suggest here that the attraction of what is proper and the expulsion of what is foreign are simply expressions of the more general forces of sympathy and antipathy in nature. The cosmic sympathy most associated with Stoicism is subtly recast, then, in terms of the binary forces of sympathy and antipathy, without losing the Stoic overtones of a webbed world shot through with a kind of vital intelligence.

One of the clues that Galen is conceptualizing the attractive and expulsive faculties in terms of sympathy and antipathy is his frequent recourse to the lodestone, one of the paradigmatic models of sympathy in antiquity, in order to talk about attraction based on “appropriateness of quality,” rather than the principle of *horror vacui*.³⁵ Other examples that Galen gives to prove attraction based on quality also assimilate the natural faculties to the principles of sympathy and antipathy, such as the capacity of emetics to draw out certain kinds of humors and the efficacy of antidotes to snake venom.³⁶ The work of the natural faculties is thus implicated in a broader network of physical forces that put bodies and qualities in particular relationships with one another, rather than subjecting them, *qua* material bodies, to a single set of mechanical principles.

³⁴ See also Gal. *Nat. Fac.* 1.13 (II 38–39 K = 129,3–9 Helmreich).

³⁵ See esp. Gal. *Nat. Fac.* 1.14 (II 44–51 K = 133,11–138,14 Helmreich), a long excursus on the lodestone and the reason for its particular powers. See also 2.7 (II 106 K = 178,5–7 Helmreich) and Holmes 2012 on the use of the lodestone to illustrate sympathy in Galen’s commentary on *Epidemics* II.

³⁶ On poison and antidotes to poison as powerful illustrations of sympathy and antipathy, see Gaillard-Seux 2010: 311–16. On the presence of sympathy as a principle in Galen’s pharmacology, see Keyser 1997.

By assimilating the natural faculties in the body to larger forces in nature as a whole, Galen, as we saw earlier, circumvents the need to posit intelligence or mind in accounting for what they accomplish. The examples of the lodestone and antidotes make clear that sympathy and antipathy cut across nature as a whole, encompassing both animate and inanimate life. The difference with Galen's position in, say, *On My Own Opinions*, is clear. Whereas the attribution of sensation to plants destabilizes the boundary between plant life and animal life respected elsewhere in ancient philosophy by bringing plants up to the level of animals, the model of sympathy and antipathy blurs the line between living and non-living, rational and irrational things by extending a kind of knowingness throughout all of nature.

Such a strategy means that *On the Natural Faculties* yields a strong contrast between the non-conscious, unthinking work of vegetal life and conscious, reasoned decision-making based on consideration of what is the best option. In a passage describing the action of the stomach on ingested food, for example, Galen stresses that the stomach does not contract for the sake of (*dia touto*) preparing the nutriment for the rest of the body. If it did, it would become – much like the seed likened to Pheidias risks becoming in the example we saw earlier – an animal in possession of reason (*logismos*) and intelligence (*nous*) and so capable of *choosing* the better of two options (*hōs haireisthai to beltion*).³⁷ Elsewhere, Galen playfully rejects the idea that the urine sets off of its own accord for the kidneys, “considering this the better course” (*touto beltion einai nomizonta*), much as we do when we go to the market.³⁸ Galen succeeds in explaining these bodily activities as purposeful but not intentional because of the natural faculties and, behind them, the broader principles of sympathy and antipathy.

In sum, then, Galen is navigating a difficult space in *On the Natural Faculties*. On the one hand, he stands firmly against the idea that life is either wholly random or wholly deterministic. On the other hand, he distinguishes the purposiveness that makes it likely to succeed from the *deliberate* pursuit of life. But at this point, we may ask: why does life become the responsibility of deliberate agents at all? Why is it not enough for the organism to survive by means of the ongoing, nonconscious actions of sympathy and antipathy? The answer to these questions returns us to the chanciness of life under even the best of circumstances. I turn now to consider how the possibility of error within the natural functioning of

³⁷ Gal. *Nat. Fac.* 3.13 (II 199 K = 245,21–23 Helmreich).

³⁸ Gal. *Nat. Fac.* 1.15 (II 57 K = 142,20–23 Helmreich).

life creates the idea that flourishing is only a probable outcome, one that must be secured by intelligent, conscious, knowledgeable agents acting on the body as an object of care.

Doubling nature: the technical agent

Galen's larger view of nature, as we saw at the outset, is that our world is the best of all possible worlds. But that view does not mean that everything always turns out for the best. In the case of living things, the translation of the Demiurge's intelligence into something immanent within a physical body opens up flourishing as a probable outcome, something that is likely to be realized but cannot be guaranteed. That is to say, life is not something that happens at random or by chance. Yet neither is it a necessary outcome, like the attraction of matter into a void. It is something made possible and, indeed, *encouraged*, by the arrangement of matter in a certain way. Yet the very involvement of matter in the success of the outcome also opens life up to failure. In Plato's *Timaeus* we already encounter the idea that matter often proves an obstacle to the realization of the Demiurge's plans. The materiality of the created organisms can also interfere with their ongoing success. For Galen, too, the success of the natural faculties is always dependent on their material conditions, and especially the proportions of the underlying mixture of hot, cold, wet, and dry (the mixture is specific to different parts, depending on their function).³⁹

In *On the Natural Faculties* we see such a principle expressed most clearly in Galen's recognition that a part functions successfully only if the mixture underlying the part is well balanced. If the qualities contributing to this balance are not measured appropriately, the activity proper to the part is compromised or destroyed: a faculty lacking its proper material is literally inoperative (ἄπασα γὰρ δύναμις ἀργεῖ ἀποροῦσα τῆς οικείας ὕλης).⁴⁰ This means that no faculty is immune to the vagaries of the mixture underlying it; no faculty is "tough as steel and unaffected by circumstances" (ἀδαμαντίνη τις ἡμῖν αὐτῆ μόνη καὶ ἀπαθής ἐστί).⁴¹ Moreover, the constant change in the material substratum of parts makes the individual parts dependent on the overall health of the organism for the conditions of their success. It is to some extent because no part functions independently of

³⁹ E.g. Gal. *Nat. Fac.* 2.9 (II 126 K = 192,18–25 Helmreich), *Opt. Corp. Const.* 2 (IV 741–42 K), *Temp.* 9 (I 563–64 K = 34,20–35,3 Helmreich), on the mixture of skin.

⁴⁰ Gal. *Nat. Fac.* 2.3 (II 84 K = 161,23–24 Helmreich). See also Gal. *Nat. Fac.* 2.8 (II 118 K = 187,3–8 Helmreich), with Debru 2008: 273.

⁴¹ Gal. *Nat. Fac.* 2.8 (II 112 K = 182,22–23 Helmreich).

the other parts that the success of a given faculty on a given occasion is governed by conditions of probability.⁴²

If the parts are dependent on the whole for success, the whole is itself dependent on another set of factors for its well-being; for the body that, guided by an innate teleology, strives to maintain life must contend with another force – namely, the person himself, whose choices and actions always have an impact on the material conditions of the faculties. The decisions that the embodied subject makes about what to eat and drink, for example, are an integral part not just of the process of nourishment but of the maintenance of overall health.

The word that matters here, of course, is “decision.” After all, as we have just seen, what distinguishes the work of living at the level of the subject, as opposed to the level of immanent life, is the capacity to make choices. It is true that Galen sometimes seems to imagine a continuum between the sympathies and antipathies of the organs and more conscious actions. The stomach “longs after and tends toward what is advantageous and proper to it and loathes and rids itself of what is foreign” (τῆς γαστρὸς . . . ὀρεγομένης μὲν καὶ προσιεμένης τὰ χρήσιμά τε καὶ οἰκεῖα, δυσχεραίνουσης δὲ καὶ ἀποτριβομένης τὰ ἀλλότρια); in so doing, it determines whether one swallows quickly or with difficulty, sometimes even snatching food it deems appropriate out of the mouth without the person even wanting to swallow.⁴³ Nevertheless, Galen is elsewhere clear that choice defines the activity of the conscious actor vis-à-vis the activities of the faculties.⁴⁴ What is more, the very prevalence of disease suggests that the choosing agent can – and often does – override the tendencies of the faculties, undercutting their odds of success.

Take, for example, a passage where Galen is talking about the value of knowing about the nature and effects of bile. Having noted the deleterious effects that an excess of bile has on the overall constitution of a human being, he asks: “Would it not be absurd, then, for someone to *choose voluntarily* those things that contain more bile rather than those containing less?” (πῶς γὰρ οὐκ ἂν εἴη γελοιότατος, ὅς ἂν ἐκῶν αἰρήται τὰ πλείονα χολῆν ἐν ἑαυτοῖς περιέχοντα πρὸ τῶν ἐναντίων;).⁴⁵ But, of course, such

⁴² Gal. *Nat. Fac.* 3.13 (II 190 K = 238,23–239,8 Helmreich), with the language of *eikos*.

⁴³ Gal. *Nat. Fac.* 3.8 (II 172–74 K = 225,23–226,10 Helmreich). Galen goes on to give examples of animals whose stomachs are like hands, actually reaching out of their mouths to grab food. On the continuum of nonconscious and conscious appetite in the Hippocratic authors, see Holmes 2010: 196–200.

⁴⁴ The working distinction between automatic actions and actions undertaken by a desiring, choosing agent goes back to the Hippocratics: see Holmes 2010: 171–77 and Holmes forthcoming.

⁴⁵ Gal. *Nat. Fac.* 2.8 (II 114 K = 184,6–8 Helmreich).

a choice is only absurd if the choosing subject (or his physician) *knows* the negative effects bile will have on the body. For neither we nor our physicians can improve our bodies without knowing what is appropriate and inappropriate for them. Such knowledge complements the stomach's innate tendencies to seek what is proper and what is foreign. At the same time, if it is absent or inoperative, the embodied subject may make choices that undermine the striving toward life at the non-conscious, vegetal stratum of the self.

Unfortunately, just as the material conditions of life make success only a probable outcome, so the acquisition and effective use of knowledge about the body and what is proper to it is not a situation guaranteed in advance. We may be creatures fashioned with the tools to be stewards of our own health. More often than we would like, however, we fail to carry out that role. But, whereas the chanciness of the first scenario represents the irrepressibility of matter within the plan of the Demiurge, the chanciness of the second points to a different kind of erring; for it arises from an ignorance and irresponsibility which it is *in our power* to combat. Galen was deeply committed to this axiom throughout his career. In *On the Natural Faculties* he writes “it is in our power to alter and transmute morbid states of the body – in fact, to give them a turn for the better” (ἀλλοιοῦν γὰρ δήπου καὶ μεταβάλλειν οἷοί τ' ἐσμὲν καὶ τρέπειν ἐπὶ τὸ βέλτιον ἅει τὰς μοχθηρὰς καταστάσεις τοῦ σώματος).⁴⁶ Insofar as we are rational agents, we have the power to educate ourselves to make the choices required to ensure the optimal condition of flourishing for our own bodies within the best possible world created by the Demiurge. If we fail to make the right choices, either because we do not pursue the appropriate knowledge or because we do not act on it, that is *our* failure. The practice of life becomes deliberate, reasoned. The chanciness of flourishing at the level of the plantlike body creates a space where rational agents succeed or fail to live.

We can see how probability at the non-conscious level helps to secure this ethical space in another anti-Erasistratean polemic from the treatise *On Antecedent Causes*. Here, rather than attacking Erasistratus for failing to grant causal force to the purposefulness and skill of Nature, as in *On the Natural Faculties*, Galen takes him to task for, among other things, failing

⁴⁶ Gal. *Nat. Fac.* 2.8 (II 114 K = 184,12–14 Helmreich). For Galen's confidence about what can be known regarding the body and its behaviors, see Hankinson 2009: 210–13. Elsewhere, he shows himself more sensitive to the limitations and difficulties involved in perceiving pathological states and correcting them. The “stochastic” nature of medicine was recognized as early as the Hippocratics. For the perception of medicine as a probabilistic art in the Corpus, see von Staden 2002.

to secure health as an ethical domain. Erasistratus' overriding error is that he refuses to recognize the antecedent or "procatartic" cause, the concept that Galen is defending here.

By antecedent cause, Galen means an external factor antecedent to the disease that is in some way responsible for the disease process unfolding within the body; its effects may be felt long after the cause has faded away.⁴⁷ The example to which Galen returns time and again in the treatise – and which seems to have been the favored example of his opponents – is that of a crowd exposed to heat in an open-air theater.⁴⁸ For many members of the audience, the heat will not be sufficiently strong to trigger disease on its own. But in the case of bodies already weakened, say, by bad regimen, it is very *likely* to trigger a causal series that leads to fever. For Galen, this is enough to make the heat a crucial part of the etiological narrative. Erasistratus and his followers disagreed, for at least a couple reasons.⁴⁹

First, Erasistratus, at least on Galen's almost certainly skewed account of his views, denied that external factors, especially heat and cold, could *ever* form part of the causal picture of disease, thereby drawing a firm boundary between the outside and the inside of the body.⁵⁰ But second and for our purposes more important, Erasistratus refused to see *any* factor that does not invariably lead to a disease – say, fever – as a cause, according to Galen. That is, he eliminates from the roster of causes anything that has the potential to have a harmful effect or is likely to have that effect but does not, in fact, *always* have that effect on *everyone*. Therefore, in addition to heat and cold, internal causes such as exhaustion and repletion are eliminated from the causal portrait because they do not invariably lead to disease. Erasistratus is left with one and only one true cause of fever: the leakage of blood from the veins to the arteries (*paremptōsis*). For *paremptōsis* always leads to inflammation, and inflammation always leads to fever. The "always" guarantees the status of *paremptōsis* as a cause.

Galen at times seems to suggest that Erasistratus would permit a more nuanced picture of causality. Erasistratus seems to have been willing to grant, for example, that certain conditions, such as *plethora* – the overloading of the veins with undigested food – tend to lead to *paremptōsis*, thereby allowing probability back in.⁵¹ But he apparently did not want to call such

⁴⁷ See Hankinson 1998: 24–26, 45–48.

⁴⁸ Gal. *CP* 2.11 (72,17–26 Hankinson), 8.100 (104,7–17 Hankinson), 10.126 (114,12–24 Hankinson).

⁴⁹ Erasistratus is the only named opponent in the treatise, but the Methodists also seem at times to be encompassed by the attack, insofar as they denied the relevance of external causes.

⁵⁰ Hankinson 1998: 31–35, 46–47.

⁵¹ Gal. *CP* 14.174 (134,13–25 Hankinson), with Allen 2000: 87–88.

conditions causes. These passages imply a simple terminological dispute. Galen, however, insists that the rift with his opponent goes much deeper. I would suggest that Galen's unease with Erasistratus' position arises from his own need to demarcate and secure space for complexity and probability within the realm of causality; for the problem with limiting cause to the single mechanical event that necessarily results in fever is that it threatens to leave everything else shrouded in randomness and chance, much as we saw in *On the Natural Faculties*. It is as if, for Galen, Erasistratus' refusal to extend the title of "cause" to even the likely factors in fever abandons those factors to indiscriminate chaos.

The result of such a scenario, on Galen's analysis, is the complete elimination of the ethical space where the chances of flourishing are negotiated by rational agents; for if we deny that heat is a cause of fever because it does not necessarily cause fever, we fail to see the very thing on which the outcome depends – namely, whether a given body is in robust health or whether it is already in a state of imbalance, conditions determined largely (for Galen) by whether the embodied subject is taking care of himself.⁵² The cost of occluding the embodied subject from the causal picture is steep. If we accept, with Erasistratus, that repletion is not a cause of illness, Galen argues, we will be led to abandon an ethics of care, thinking that there is no connection between our actions and our diseases:

Quid igitur prohibet omnes repleti cibus simul et potibus? Cur autem removemur ab indigestione, cur vero <moderate> exercitamus, cur autem ordinate dietamur? Haec igitur deponamus eruditi ab Erasistrato et frigus et estum negligamus, similiter autem et vigiliam.

What then is there to prevent us from filling ourselves up with both food and drink? Why do we guard against indigestion, why exercise moderately, why run our lives in a well-ordered way? So, let us learn from Erasistratus and put them all aside, taking no notice of cold and heat; and the same goes for sleeplessness. (Gal. *CP* 15.187 [142, 3–6 Hankinson]; trans. Hankinson 1998)

That is, if everything except the necessary local event loses meaning, then we are facing the demise not only of a theory of causality but also of an ethics of taking care of life.

The category of procatartict causes has strong associations with the Stoics. Yet, for the Stoics, the chain of antecedent causes leading up to its effects produces a deterministic understanding of fate, a causal story

⁵² See also, e.g., Gal. *Diff. Feb.* 1.6 (VII 289–91 K), with Nutton 1983: 3–9.

marked by necessity.⁵³ By contrast, in Galen, antecedent causes are the backbone of a story about possible outcomes and the ethical opportunities they open up. By that I do not mean that Galen gets rid of necessity. For the weakened person who comes down with fever in the theater, the causal chain accumulates outcomes that are necessary if nothing intervenes. But Galen sees this necessity in terms of the local physical conditions, rather than some predetermined fate.

More importantly, Galen emphasizes the need to recognize as causes those factors whose pathological potential is realized *only some of the time*. Whether the negative outcomes are realized seems to be something that is largely up to us. It depends on whether we maintain the mixture of the body under optimal conditions, especially through the regulation of our lives in ways that are both medically and morally appropriate. Galen upholds, then, a view of the world not just as causally complex but as susceptible to intentional manipulation.

The possibility of taking care is occasioned, it is worth remembering, because of an undecideability at the heart of the body organized by Nature, the vulnerability of immanent intelligence to the vagaries of matter and mixture. It is dependent on the knowledge of what is appropriate or foreign to the human body (or a particular human body). That is, it depends on rational agents making choices that mimic the work of sympathy and antipathy as they orchestrate the natural faculties. The acquisition of knowledge has, on such an occasion, an instrumental purpose, insofar as it facilitates the pursuit of life by supplementing the work of Nature's immanent intelligence.

And yet, in some sense, such "technical" intelligence is alien to immanent intelligence in ways similar to the differences between the *tekhne* of a sculptor like Pheidias and the *tekhne* of Nature. I want to close by reflecting briefly on the nature of knowledge about the natural faculties themselves and how Galen's puzzlement about the immanent purposefulness that brings the organism into being and ensures its survival exposes the defining rift within the human organism – namely, the rift between conscious (deliberate) and non-conscious (automatic) life.

Conclusion: the limits of likely stories

Galen, as we have just seen, is confident that human beings have the capacity to acquire enough secure knowledge about the body and the

⁵³ Hankinson 1998: 25; Frede 2006.

things that affect its health to safeguard the flourishing of the organism. But there are some things in nature that fall outside the parameters of certain knowledge. Galen, as we saw at the beginning of this chapter, at times refers to such knowledge as knowledge that goes only so far as what is credible or plausible (*akhri tou pithanou*), and he characterizes speculation of this kind on a couple of occasions by appealing to the concept of the “likely stories” from Plato’s *Timaeus*.⁵⁴

In an extended discussion at the end of *Formation of the Fetus*, we see another category open up: subjects on which Galen cannot even reach a plausible explanation.⁵⁵ The subject at hand is one that Galen puzzled over, it seems, for most of his life: the nature of the soul.⁵⁶ More specifically, he is expressing his failure to understand how animals are created and how they sustain life. The quandary points to the elusiveness of Nature’s immanent knowingness.

As we saw earlier, in this treatise Galen resists the idea (which he entertains in *On the Natural Faculties*) that the natural faculties are responsible for the formation of the fetus because, as he says, they lack reason and intelligence. Such faculties seem incapable of carrying out the plan (*logos*) of the Demiurge.⁵⁷ Yet he finds it hard to accept that the rational soul we possess after birth is responsible for the construction of the fetus – that is, that a single soul governs our creation and, indeed, continues to ensure the functioning of the parts. The problem lies precisely in the discontinuity between the action of those parts and our rational understanding of how they work; for what speaks against a single unitary soul, for Galen, is the fact that “the soul that manages us has no knowledge of the parts that obey its urges” (ἡ ἄγνοια τῆς διοικουμένης ἡμᾶς ψυχῆς τῶν ὑπηρετούντων ταῖς ὀρμαῖς αὐτῆς μορίων).⁵⁸ He marvels at the fact that children can speak without any understanding of how the muscles involved produce the sounds or, for that matter, the work done by the nerves. And, even as adults, we do not have any knowledge of the parts of our bodies or their activity before the study of anatomy, a shortcoming that does not prevent us from, say, moving those parts.⁵⁹ If a single soul pervaded the entire body,

⁵⁴ See above, nn. 4–5.

⁵⁵ Gal. *Foet. Form.* 6.30 (IV 700 K = 104,14 Nickel): *oud’ akhri tou pithanou proelthein dunamenos*. See also *Foet. Form.* 6.1 (V 687 K = 92,1–3 Nickel), 6.16 (V 693 K = 98,3–4 Nickel).

⁵⁶ See, e.g., Gal. *Prop. Plac.* 14 (188,7–13 Boudon-Millot and Pietrobelli), with Donini 2008.

⁵⁷ On the plan of the Demiurge, see Gal. *Foet. Form.* 5.9 (V 682 K = 82,16 Nickel).

⁵⁸ Gal. *Foet. Form.* 6.25 (V 697 K = 100,28–29 Nickel).

⁵⁹ See also, e.g., Gal. *Loc. Aff.* 6.6 (VIII 445 K), where he invokes the “Hippocratic” theme of “untaught nature.” On untaught nature, see also Gal. *Caus. Symp.* 2.5 (VII 178 K), *Loc. Aff.* 4.6 (VIII 443 K), *PHP* 5.5.3 (IV 459 K = 316,30–31 De Lacy), *Sem.* 2.6.6 (IV 643 K = 198,7–8 De Lacy). On the Hippocratic source, see [Hpc.] *Nutr.* 39 (IX 112 L).

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Galen believes, the workings of the body would be entirely transparent to us.

The fact that the governing soul is ignorant of the nature of the very parts it commands points, for Galen, to a gulf between the two kinds of intelligence at work in the organism, one immanent in the parts, the other concentrated in the rational mind. Galen is mostly interested here in explaining how it is that parts of the body, such as muscles, respond to our desires. But one can extend the argument to the “knowing” functioning of the natural faculties themselves. The point is that, when pressed to account for such knowingness, Galen chose to mark the limits of rational inquiry.

We might see Galen’s appeal to *aporia* as in some sense performative; for it enacts quite literally the problem that he describes in the speaking child. That is because the breakdown of even probable stories about the technical intelligence behind the fashioning and the functioning of the parts bears witness to the discontinuity between that intelligence and our own rational endeavors to account for the world and our own bodies. That failure suggests a truth that Galen sidesteps: that we are creatures designed around a fundamental blindness to our own nature, our own vital being. The life of the vegetal stratum and ethical life are resolutely irreconcilable, even as each depends on the other for the odds of its success.

In the end, then, Galen sees the pursuit of life unfolding on two levels: that of the natural faculties and that of the rational, conscious actor. At each level, life is the likely outcome, given that we live under optimal conditions for flourishing. Yet it is not a necessary outcome. What endangers success at the level of the faculties is the labile nature of the mixture, which renders them vulnerable to disruption. The trouble at the level of the person is the fact that our understanding of our bodies is neither given nor guaranteed, meaning that it is up to us to acquire the knowledge that allows us to make the choices that enable life to sustain itself. The very possibility that we may not make the right choices is what makes the pursuit of life at this level an ethical endeavor.

But the ethical nature of taking care is secured at an even more basic level by the very non-transparency of nature to the rational soul. That non-transparency is, in the end, absolute. By this I do not mean that we cannot gain a plausible or, in some cases, even a secure knowledge of how the parts work (how we digest food, how we excrete urine, how we speak). We can acquire such knowledge and, in so doing, we gain the skill to act, like a sculptor, on the body, and therefore the ability to shape our lives in such a way as to maximize our potential to flourish. But we can never

internalize this knowledge so that it forms a continuum with the work of the natural faculties. However much, then, we seek to secure conditions under which nature has a good chance of succeeding in its aims, we remain estranged from – and, perhaps, surprised by – each moment at which merely probable life is actualized.

PROOF