

58. Ibid., 63–4.  
 59. Versions of this chapter were presented at a symposium on the history of Stoic ethics, organized by Steven Nadler at the American Philosophical Association meetings in Minneapolis, May 2001, and at *Der Einfluß des Hellenismus auf die Philosophie der frühen Neuzeit*, organized by Gábor Boros at the Herzog August Bibliothek in Wolfenbüttel, Germany, July 2001. Thanks to all present for their comments. Thanks also and especially to Brad Inwood, Phillip Mitsis, and Calvin Normore.

## The *Discourse on the Method* and the Tradition of Intellectual Autobiography

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### I. The *Discourse* and Its Genre

When Descartes' mathematics, and what was true in his physics, were surpassed, and what was false in his physics was refuted and ridiculed, the two main works that survived the wreck, and continue to shape our picture of the man, were the *Discourse on the Method* and the *Meditations*. Of these, the *Meditations* is less personal. The Meditator of the *Meditations* is not specifically René Descartes. Rather he, or she, is a role that any of us can fill if we choose to pursue this path of thinking. By contrast, the *Discourse* presents to us the life and aims and undertakings, not precisely of René Descartes – for the original 1637 publication was anonymous – but at any rate of the person who is the author of the *Essays* that the *Discourse* introduces (the *Geometry*, the *Dioptrics*, and the *Meteors*), who has made many new discoveries through a special method of “searching for truth in the sciences” and who is also the author of some more mysterious treatises that he has chosen not to publish. The *Discourse* presents this impressive but anonymous person as having made an almost-complete break with the traditional disciplines in which he was educated; he begins his own intellectual work, when he does begin it, not from the lessons of his teachers or from books or from what he learned by travelling in “the book of the world,” but from his own private reflections that lead him to the method described in Part Two. He grudgingly acknowledges the debts of this method to traditional logic and, in mathematics, to “the [geometrical] analysis of the ancients and the algebra of the moderns” (AT VI, 17), but he recognizes no such debt to any kind of philosophy other than logic, or to any other discipline of more than narrowly technical scope.

But we know better than to take Descartes' self-presentation at face value, and it is fair to ask how novel the *Discourse* itself really is. It will help to distinguish two questions. First, does the *Discourse* belong to some established kind of writing whose rules it more-or-less consciously follows, or is it a formal

innovation? Second, how new in content is what the *Discourse* says about its author and his method, and how new is the advice it addresses to its reader founded on this authorial self-presentation? These are the kinds of questions that we are now used to asking about the *Meditations*. The *Meditations*, even more than the *Discourse*, present themselves as restarting the enterprise of knowledge *ex nihilo*, beginning by withdrawing assent from everything we have observed through the senses or heard from other people; but we have not let this scare us out of seeing that the *Meditations* are formally modelled on earlier "spiritual exercises" such as those of Augustine's *Confessions* VII, and that, in their philosophical content, they use and transform concepts, doctrines, and arguments from Augustine and others. But this kind of research does not seem to have begun in earnest on the *Discourse on the Method*.<sup>2</sup> This may be in part because the *Discourse* belongs formally to a kind of writing more obscure and less fashionable than "spiritual exercises." Of course, if we define the genre of the *Discourse* broadly enough, we can fit it into something familiar, but then it is likely to be too broad to be useful in interpretation. It is certainly true that the *Discourse*, in whole or in part, is an autobiography, a preface (to the *Essays*), a critique of traditional education, and a charter for a scientific research program, all of which are kinds of writing with many earlier instances. But it would be much more useful for understanding Descartes' authorial strategy in the *Discourse* if there had been a pre-existing genre of, say, autobiographical prefaces to collections of scientific works containing a critique of established educational practices and a prescription for scientific method. And, as a matter of fact, there was such a genre, going back to ancient models and imitated both in the Middle Ages and by some of Descartes' contemporaries. I don't know how to show that Descartes had read any one particular book of this kind, but I think that the fit between the *Discourse* and generic features of this kind of writing is too close for coincidence, and that Descartes must have known that he was writing, and must have intended to write, a book of this traditional kind; his contemporary readers knew this too, and this is part of the explanation for why (as work by Dan Garber and others has shown) none of Descartes' contemporaries seem to have thought in 1637 that they were witnessing a revolution.<sup>3</sup>

I should admit both that this prehistory of the *Discourse* is complicated, and that I am ignorant of much of it. It is a history, not of a single entirely uniform kind of writing, but a group of related and overlapping kinds. And while I think I know who began this history, and some of its main later names, I am missing too many pieces to be sure that I know its overall shape. But I hope that, by suggesting a context for the *Discourse*, I will stimulate others to discover what is missing, and to take the rereading of the *Discourse* itself, in the light of its historical contexts, further than I can do here.

To see what possible models we might look to, and how the *Discourse* might turn out to follow or to diverge from them, it will help to say a bit

more about what the *Discourse* is supposed to be about. The title is slightly ambiguous. *Discours de la méthode pour bien conduire sa raison et chercher la vérité dans les sciences* should mean "discourse on the method for rightly conducting one's reason and searching for truth in the sciences." But it might just mean "discourse on the method for rightly conducting *his* reason," the author's: as Descartes says, "my aim is not to teach here the method which everyone must follow for rightly conducting his reason, but only to show how I have tried to conduct my own" (AT VI,4). Indeed, it would be impossible to use the *Discourse* to learn how-to. Descartes does list, briefly and without explanation, four entirely unoriginal rules of method in Part Two, but that is all; as he himself says, his method "consists more in practice than in theory" (AT I,349) and so cannot really be taught. As he says, he calls the text "not *Treatise on the Method*, but *Discourse on the Method*, which is the same as *Preface or Foreword about Method*, to show that my aim was not to teach it, but only to talk about it" (ibid.). While Descartes does not tell his readers enough about his method to teach them to practice it themselves, he tries to persuade them of its value by presenting the *Essays* as fruits of his personal method, "to give proof [/test] of the universal science which he proposes" (AT I,339). But except for the very brief discussion in Part Two, Descartes is not talking about anyone's scientific method in any narrow sense; rather, he is describing the education of the scientist as a person (including self-habitation in restraining precipitancy in judgment, and the formation of a personal moral code): Descartes is promising (and offering himself as evidence) that a person so formed will be ideally suited to engage in the sciences, and indeed that he will have a vision of a "universal science," of how all the sciences fit together into a single enterprise. So the *Discourse* is not didactic but protreptic to education as a scientist, and it functions rhetorically by giving a *paradeigma* of the successful education of a scientist – namely, the author himself: Descartes marks this rhetorical function when he says that he "puts this writing forward only as a history, or, if you prefer, as a fable, in which, among some models that one might imitate, one will perhaps find others that one will have reason [/do well] not to follow" (AT VI,4).

But Descartes' account of his own education – his own *self-education*, which began by rejecting his school education and starting over – will not be purely inner and psychological: in order to show the reader the benefits of this education, he also wants to describe its concrete fruits – namely, his books, both the *Essays in the Method* and other books that he is not now making available; so Descartes describes why he wrote these books and gives an introductory description of their contents. The result should be, if you are indeed the kind of reader with a natural thirst for knowledge that the *Discourse* seeks to reach, to whet your appetite for the *Essays in the Method* and to show you what to read them for. But beyond that, it is supposed to whet your appetite for Descartes' method, which you will

have to discover for yourself by discerning and imitating what the author was doing in the *Essays*. Descartes' account of his own education shows that he was disappointed in books. His own books will make the situation a little better for those who come after him, not directly by serving as authoritative textbooks (any attempt to use the *Geometry* as a textbook of geometry would be a hideous failure), but by stimulating you to discover for yourself, with Descartes and his books as a model, what Descartes had had to discover by himself (so he would have you believe) without any model at all.

This is no doubt all familiar. But it will be useful to have it all set out in comparing the *Discourse* with other books, from Descartes' time and earlier, that share some of the same goals and rhetorical strategies. One immediate comparison is with other texts on scientific education. Many of Descartes' eminent contemporaries contributed such texts to a collection, inspired chiefly by Gabriel Naudé, *Hugonis Grotii et aliorum Dissertationes de Studiis Instituentis*, published in 1645 by Elzevier, who had just the previous year published the Latin version of Descartes' *Discourse*.<sup>1</sup> The *Dissertationes* is a grab-bag of twenty-odd texts by different authors, each giving advice on how you should educate yourself in some particular scientific or literary discipline; sometimes they give you *paradeigmata* of successful education; very often they give lists of books that might be useful for your education in the given discipline, explaining why these books were written and how you should read them for the most profit.

These texts differ more or less from the *Discourse* in that they are often about one single discipline rather than about all the sciences together; in that, often, they do not take the author himself as the *paradeigma* for education; and in that, often, when they describe useful books in the field, they do not take the author's own books as the central or sole examples. But one text in the volume stands out in all three of these respects, Tommaso Campanella OP's *De libris propriis et recta ratione studendi syntagma* (commissioned by Naudé, and formally a letter to Naudé). Campanella is talking about all the disciplines, and he concentrates on his own writings on all of them, and he begins from his own education in all of them, beginning at age five. In Chapter 1, "On his own books," Campanella goes through the different phases of his life, saying what books he wrote when and why; in Chapter 2, he explains the right way to philosophize, noting the natural prerequisites (intelligence, good memory, unflagging study, and so on) and then laying down rules of method, which presumably have governed Campanella's own work; in Chapter 3, he explains the right way to write, especially in works either of scientific investigation or of scientific teaching; and in the fourth and last chapter, basing himself on these principles, he gives his judgment on the main writers who preceded him, especially but not exclusively in the sciences. In his accounts of how to philosophize and how to write, while Campanella is describing and justifying his own practice, he is also giving

directions to the reader, who is exhorted and addressed in the second person singular especially in the list of rules of method in Chapter 2, Article 2. Campanella is concerned with his reader's education, and in Chapter 2, Articles 3–6, he lays out careful advice for what books to read in each discipline, and, especially, for what order to read them in; Campanella sees his own self-education, and his own teenage rejection of the Peripatetic education that his Dominican brethren had tried to give him, as paradigmatic for what his reader will have to do; and Campanella hopes that his own books will be useful in his reader's education, although he does not want to throw earlier writers overboard.

As I said earlier Descartes' *Discourse* was an autobiographical preface to a collection of the author's scientific works, containing a critique of established educational practices and a prescription for scientific method; the Campanella too, while not literally a preface, does give a *catalogue raisonné* of the author's works, beginning with an autobiography in Chapter 1 (it was a colorful life, with periods of imprisonment) and especially with a critique of established education in Chapter 1, Article 1, and giving a prescription for scientific method in Chapter 2. And while Campanella's prescriptions are quite different from Descartes' – Campanella says Descartes-like things about beginning with doubt and withholding assent as long as possible, and about forming your own judgment and not trusting to any previous sect, but he also favors learning the complete "history" of everything, and thus in particular *reading*, a practice Descartes thinks less well of – Campanella captures his readers' support for his method by first narrating his dissatisfaction with what he learned from his teachers, much as Descartes supports the method of Part Two of the *Discourse* with the narrative of educational disappointment in Part One. As Campanella describes it, at the age of fourteen or thereabouts,

I took down in writing lectures on logic and physics and psychology; but then, since I was troubled that what was being delivered to me in the Peripatos seemed to be not unmixed truth, but falsehood in place of truth, I examined all the commentators on Aristotle, Greek and Latin and Arabic, and I began to doubt more and more about their dogmas; and so I wished to inspect whether what they said was also to be read in the world, which I understood from the teachings of wise men to be God's living codex. And when my teachers could not give satisfaction to the arguments which I pressed against their lectures, I resolved to read for myself through all the books of Plato, Pliny, Galen, the Stoics and the Democriteans, but especially those of Telesio, and to compare them with the primary codex, the world, so that I might learn from the original autograph what was right and wrong in the copies.

And indeed the method Campanella will recommend is to read widely but sceptically both in the books of men and in the world, and then to pass critical judgment by testing some of these testimonies against others, above all against nature and sense-experience. By contrast, while Descartes too "spent

several years studying in the book of the world" (end of *Discourse* Part One, AT VI, 10), his discovery of his own method came only when he abandoned that and "made the resolution to study also in *myself*" (ibid.). Descartes went on to draw his scientific system much more from his own internal resources – or, rather, Descartes chooses to present himself as drawing his scientific system much more from his own internal resources – than Campanella had done.

Descartes and Campanella are not particularly close, either in what they believe about the world or in what they believe about method; they were both Copernicans and anti-Aristotelians, but that is all. They were contemporaries (Campanella's dates are 1568–1639, Descartes' 1596–1650), and at least friends-of-friends-of-friends-of-friends (Descartes-Mersenne-Gassendi-Naudé-Campanella), but there is no reason to think that either influenced the other (Descartes says some unkind things about Campanella's writing-style and deplors his panpsychist excesses at AT II, 47–8 [and cp. AT II, 436], but that is all). In particular, the *Discourse* and Campanella's *De libris propriis* are entirely independent works.<sup>5</sup> But as we have seen, these two books, despite their differences, share formal features and some not-merely-formal features, such as what seems to have been an obligatory account of their authors' youthful dissatisfaction with their school-education. These similarities suggest that Descartes and Campanella are both writing in a shared Renaissance genre of intellectual autobiography, with their common features going back to the same ancient model or models.

## II. Galen, Ibn al-Haitham, Ghazālī

If I may say something autobiographical myself, I suddenly saw the key to the puzzle – not specifically about Descartes and Campanella, whom I have discussed only *exempli gratia*, but about the *Discourse* and its genre – when I stumbled on the brief autobiography of Ibn al-Haitham (Alhazen), the great Muslim optical theorist and mathematician (ca. 965–1040).<sup>6</sup> Two things became immediately clear from this autobiography: first, that Ibn al-Haitham is modelling it on autobiographical texts of Galen (the reason this was immediately clear is that Ibn al-Haitham cites Galen by name four times); and second, that Ibn al-Haitham's intellectual history as presented in this text is much too close for coincidence to Ghazālī's intellectual history as presented in Ghazālī's famous *Deliverance from Error*, and this despite the fact that Ibn al-Haitham is mostly talking about what we would call "science" and Ghazālī is mostly talking about what we would call "religion." Since Ghazālī wrote seventy years after Ibn al-Haitham, Ibn al-Haitham was not taking it from Ghazālī, and it also quickly became clear that Ghazālī was not taking it from Ibn al-Haitham; rather, the similarities were because Ghazālī and Ibn al-Haitham were both modelling their self-presentations on Galen's self-presentation in his various autobiographical texts. If we put Galen and

Ibn al-Haitham and Ghazālī together, we can see that Galen invented both a distinctive form of autobiographical writing and also a distinctive content to the description of the author's life and discoveries and writings. Our two Muslim authors, and also Renaissance Christian authors such as Campanella and Descartes, are taking over a strategy of self-presentation that had been originally invented by Galen, although Descartes may not have been conscious of Galen as his model, and although I do not claim to know all the links of transmission or even the overall shape of the tradition. What is most interesting is not that this leads our different authors to write autobiographical texts with some formal similarities, but that a surprising amount of the autobiographical content, of what we might have expected to be most personal to each author, is also inherited and adapted by each author to his own situation. In fact, the formal similarities are weak enough that I am not wholly comfortable speaking of a single genre. Galen did not write a single canonical text, called something like *Autobiography*, which all the later authors could imitate; rather, he talks about himself in many places, saying many of the same things but adapting himself to the demands of the context, especially in the *On His Own Books* and the *On the Order of His Own Books* and the *Passions and Errors of the Soul*, but also in scattered passages in many other writings.<sup>7</sup> What the Muslims and Christians took from Galen was not primarily one book as a model, but the more general strategy of self-presentation which I will describe. Nonetheless, Galen's *On His Own Books* and *On the Order of His Own Books* do seem to have been a more particular model, for some of our authors more than others, and I think we can speak of these books as founding a specifically Galenic genre of autobiography/autobibliography, followed more closely by Ibn al-Haitham and Campanella and more loosely by Ghazālī and Descartes.

Ibn al-Haitham's text is preserved for us in Ibn abī Uṣaibi'a's biographical dictionary of medicine: Ibn al-Haitham never practiced medicine himself, but as Ibn abī Uṣaibi'a says, he wrote on the theoretical foundations of medicine, and wrote expositions of the works of Galen as well as of Aristotle and of Euclid, Apollonius of Perga, and Ptolemy. Ibn abī Uṣaibi'a says that he copied the text from Ibn al-Haitham's own autograph; it is not clear that Ibn al-Haitham gave it a title, but Ibn abī Uṣaibi'a calls it a "book on what he had done and written in the sciences of the ancients" up to the time of writing, and it is centered, like Galen's *On His Own Books*, on a list of his books, twenty-five in mathematics and forty-five in philosophy (including an enormous work *On the Constitution of the Art of Medicine*, following the order of thirty of Galen's treatises in sequence!). But Ibn al-Haitham embeds this list in an autobiographical account of his dissatisfaction with the sects and disciplines to which he was first exposed, his aspirations to a higher wisdom, and his search for a criterion of truth, until he found a satisfying criterion in the Greek science of logic, and satisfying applications of this criterion in the mathematical disciplines, in physics including the foundations of medicine,

and in metaphysics or theology. As Ibn al-Haitham says at the beginning of the text,

Ever since childhood I have been suspicious about the judgments of these men who differ among themselves, and about the tenacious adherence of every sect among them to the view they judge [true], and so I became a doubter about all of them, being sure that there is only one truth and that there is disagreement about it only [because there is disagreement about] the paths to it.<sup>8</sup> So when I reached the age for grasping intellectual matters, I dedicated myself to the pursuit of the wellspring of truth, and I turned my desire and my power-of-discovery to grasping that by which the fallacies in the opinions might be revealed, and the darkenings of the abandoned doubter might be dispelled; and I sought with firm resolution to acquire the view which brings [one] near to God (great is his praise!), which leads [one] to his acceptance and guides [one] to obeying and fearing him. And I was as Galen says in the seventh book of his *De methodo medendi*, where he addresses his student: "I do not know how it came about for me, since my childhood – if you wish you might call it marvelous [good] fortune, or inspiration from God, or a kind of madness, or whatever you might ascribe this to – I have disdained the masses of men and set no store by them, and I paid them no heed, but yearned for the love of truth and the pursuit of knowledge, being convinced that there is not given to man anything in this life that is more noble or nearer to God than these two things" [10.457.11ff Kuehn; I am translating the Arabic, which overtranslates the Greek]. And for this reason I plunged into [*kh-w-ḡ*] the varieties of views and judgments, and into the species of the sciences of the religions, and I had no success with any of them, and I could not discern any path from them to the truth, or any new way to a certain view. And I saw that I would not reach the truth except from views whose matter is sensible things and whose form is intelligible things; and I did not find this except in what Aristotle has established in the sciences of logic, physics, and metaphysics, which are the essence and nature of philosophy.<sup>9</sup>

Now for me, and I think for many other readers, the overwhelming impression on reading this was that it is exactly the same (apart from the final satisfaction with Aristotle!) as what Ghazālī says about himself at the beginning of the *Deliverance from Error*. As Ghazālī says, "a longing to grasp the realities of things was my habit and custom from my beginnings and the budding of my life, an instinct and a *ṣifra* [divinely given original disposition] implanted in my nature not by my choice or my contrivance" (Watt 21, MR 25).<sup>10</sup> So from childhood, Ghazālī, like Ibn al-Haitham, observed the different beliefs tenaciously maintained by the different sects – meaning especially the religious sects – and, realizing that they could not all be right, became a doubter about all of them, including the one that he himself had been brought up in. "So the bond of *taqlīd* relaxed from me and inherited creeds were broken off me on approaching the age of youthful assertion, since I saw that the children of Christians always grew up to be Christians, the children of Jews to be Jews and the children of Muslims to be Muslims" (ibid.). The term *taqlīd* is notoriously difficult to translate, and Ghazālī's use of it is not quite the same as earlier uses, but roughly it means believing something simply

because people who stand in some particular relation to you (your parents or teachers or the majority or the ruling group in your country) believe it, and not because you have examined the evidence yourself; Ghazālī thinks that most people believe most of what they believe through *taqlīd*, not only the creeds of Christianity or Islam or the like, but also, for instance, the teachings of whatever sect in philosophy, medicine, or (religious) law they may follow. But someone who thirsts for a comprehension of the realities of things, and observes the views of different people and their reasons for holding them, soon realizes that *taqlīd* cannot give a criterion of truth, since it leads different people to contradictory results. So, as Ghazālī puts it, "it is a [necessary] condition of the *muqallid* [= person in *taqlīd*] that he should not know that he is a *muqallid*, and when he does [come to] know that, the glass of his *taqlīd* is broken," and cannot be mended but must be cast back into the fire and forged anew (Watt 27, MR 31).

So Ghazālī, like Ibn al-Haitham, goes off in search of a criterion of truth (what Ibn al-Haitham had described as "the wellspring of truth, . . . by which the fallacies in the opinions might be revealed"); like Ibn al-Haitham, Ghazālī searches among the different groups who claim such a criterion, whether particular religious communities, or the "religious sciences" within Islam (such as *kalām* and *ṣūfism*), or the "sciences of the ancients" (philosophy in the broadest sense, including logic and mathematics).<sup>11</sup> Ghazālī, in the *Deliverance from Error*, lists the groups that seemed to have the most plausible claims – namely, the *mutakallimūn*, the philosophers, the Ismā'īlīs, and the *ṣūfis*; and he investigates whether these groups, each applying their distinctive criterion (for the philosophers, it is "logic and demonstration," for the Ismā'īlīs it is "transmission from an infallible *imām*"; the criteria of all the groups are listed Watt 26–7, MR 31), are able to achieve knowledge that has the desired certainty and that leads us to come near to God. Ghazālī and Ibn al-Haitham both conclude that *kalām*, as well as disciplines based merely on authority, do not meet this standard, but Ibn al-Haitham was satisfied with philosophy (he wrote a treatise *That All Things Secular and Religious are Fruits of the Philosophical Sciences*), while Ghazālī tries to show that philosophy fails the test, and that only *ṣūfism* succeeds. But despite the different outcomes, the two stories of childhood aspirations to truth – early doubt about traditional convictions, desire for a criterion, critical examination of different disciplines (and writing of treatises in and against these disciplines), an apparent sceptical crisis (described by Ghazālī much more fully than by Ibn al-Haitham), and the discovery of a criterion leading to the desired knowledge, and thus somehow to the divine – are very close indeed.

There is no reason to think that Ghazālī had read Ibn al-Haitham's autobiography – there is no reason to think that anyone at all had read it before Ibn abī Uṣaibi'a found the autograph in the mid-thirteenth century. The *Deliverance from Error* is incomparably longer, more profound, and more

ambitious than Ibn al-Haitham's little memoir. The two texts, and the two authorial self-presentations, are close because they are following the same traditional model or models. Ibn al-Haitham, the more modest writer, tells us plainly that his model is Galen, by quoting Galen by name four times in six pages, each time taking something Galen says about himself and applying it to his own case; and in centering his discussion on a book-list, he is following specifically Galen's *On His Own Books*. Ghazālī is much less likely to tell us that he is following someone else's model, especially the model of a pagan philosopher (Ghazālī tries to conceal the extent of his dependence on the philosophers notably at Watt 40–41, MR 45–6), and I do not claim that Galen is his sole model (the influence of the early ṣūfī Ḥārith Muḥāsibī has often been noted), or that Ghazālī follows Galen as closely as Ibn al-Haitham does. But I do think that Galen was a very important model for Ghazālī too, and that this explains many of the features that Ghazālī shares with Ibn al-Haitham.

We have already seen that Ghazālī's unchosen and divinely implanted childhood desire to "comprehend the realities of things" is very close to what Galen attributes to himself in the passage from *De methodo medendi* VII that Ibn al-Haitham starts by quoting. Galen also, like Ibn al-Haitham and Ghazālī, represents himself as having examined many different sects and disciplines (thus in philosophy, he attended the lectures of a Stoic, a Platonist, a Peripatetic, and even an Epicurean, starting at the age of fourteen in his home city of Pergamum, *Passions of the Soul* c8); Galen says that his father had encouraged him "not to declare myself hastily the adherent of any one sect, but to take a long time in order to learn about them and judge them" (*Passions of the Soul* c8, Singer 120, SM I,32). And indeed, even once he has made his mature judgments, Galen presents himself as someone who does not practice only one discipline (he insists that he is a philosopher as well as a doctor, and writes a treatise *That the Best Doctor is Also a Philosopher*) and who does not follow any one sect within each discipline, but sifts out the true from the false within the claims of each sect; as we will see, Ghazālī follows Galen's self-presentation here quite closely.

Galen also, more surprisingly, has something like the concept of *taqlīd*, and uses it to motivate his search for some method, beyond the ones ordinarily practiced, for discovering the truth in the sciences. We would not expect to find the full Ghazālīan concept of *taqlīd* in a Greek pagan author. For one thing, Ghazālī is taking the word "*taqlīd*" from technical discussions in Islamic jurisprudence, where a *muqallīd* is someone who follows someone else's legal opinions, as opposed to a *mujtahid*, who makes his own decisions (based on the sources of law) about what is lawful and unlawful; and one of Ghazālī's aims is to argue against the Ismā'īlīs, who use sceptical arguments to show that no one except their infallible *imām* is a competent *mujtahid*, and that everyone else must be *muqallīd* on the *imām*.<sup>12</sup> Nonetheless, Galen is much closer than any other Greek pagan author I know to having the

Ghazālīan concept of *taqlīd*. This is most striking in Galen's complaints about contemporary philosophers and doctors in *On the Order of His Own Books* c1:

Doctors and philosophers form admirations [*thaumazousi*] for other doctors or philosophers without having learned their doctrines, and without having practiced the art of demonstration [*epistēmē apodeiktikē*], by which they would be able to distinguish the false arguments [*logoi*] from the true ones, but some because their fathers were Empiricists or Dogmatists or Methodists, others because their teachers were, or their friends, or because someone from that sect had become celebrated [*ethaumasthē*] in their city. So too with the philosophical sects: people used to become Platonists or Peripatetics or Stoics or Epicureans for different reasons, but now, since it has become possible even to inherit a sect [*nuni d' aph' hou kai diadochai hairesseōn eisi*], i.e. since the successive scholars of the Academy, the Peripatos etc. started leaving the sect to their designated successor], many people on this account name themselves after the sect in which they were brought up, especially when they have no other means of making a living. (Singer 23, SM II,80–81)

Galen has a number of different complaints about people who become Stoics or Platonists only by title of inheritance. The slur at the end of the quoted passage apparently means that, lacking other assets, I can call myself "Stephen the Peripatetic" because my father or my schoolteacher was a Peripatetic, and treat the sect as part of the inherited capital I can use to support myself, just as if my father were a shoemaker I might receive from him the tools of the trade and some instruction in how to use them and start calling myself "Stephen the shoemaker."<sup>13</sup> But Galen's more serious point is that people take over the opinions of some philosophical or medical sect because this is what they are used to hearing and so they assume it to be true, rather than because they know how to demonstrate the conclusions for themselves or have tested whether the arguments offered by rote in their sect are any more demonstrative than the arguments for the opposite conclusions that are offered by rote in another sect. As Ghazālī puts it, such people "[try to] recognize the truth by the men, and not the men by the truth" (Watt 39, MR 45). Galen says in *On His Own Books* that "those who name themselves Hippocrateans or Praxagoreans, or after any other man, I call slaves" (Singer 5, SM II,95); more interesting than this commonplace, Galen also speaks of irrational motives that lead people to attach themselves to one particular sect, contrasting "the lover of truth" with those who "choose according to an irrational passion, like those who urge on [one side] in the rivalry of the colors in the chariot-races [i.e. the circus-factions]" (*On the Order of His Own Books* c1, Singer 24, SM II,83). Very unusually for a Greek pagan author of his time, Galen notices the Jews and Christians, and he takes them as paradigms for the intellectual attitude he is deploring. "One would more easily teach away [from their allegiance: *metadidaxien*] the followers of Moses and Christ [*tous apo Mōsou kai Christou*; cf. the texts cited earlier on those who name themselves *apo* some person or sect] than the doctors and philosophers who cling to their sects" (*De pulsuum differentiis*

III,3, Kuchn 8.657); and in three passages (two of them preserved only in Arabic!) Galen contrasts his own method of teaching, which is based on demonstration, with that of "the people of Moses and Christ, [who] have commanded [their students] to accept everything by faith."<sup>14</sup> These were among the very few Greek texts critical of the prophetic religions that were available to the Muslims, and they must have made an impression. Râzî may well be echoing them when he summarily dismisses all of the followers of all of the prophets as being in *taqlîd* and therefore incapable of studying philosophy.<sup>15</sup> Ghazâlî too takes "the children of Christians [who] grow up to be Christians, the children of Jews to be Jews and the children of Muslims to be Muslims" as paradigms of *taqlîd*, and part of his project in the *Deliverance from Error* is to show, against people like Galen and Râzî, that it is possible to be a Muslim without being a *muqallid*.

Galen does not use his observation of *taqlîd*, as Ghazâlî does, to justify an early loss of faith in inherited beliefs and thus a turning to the intellectual disciplines, and indeed this would be much less plausible in a Greek pagan context. For Galen, the encounter with *taqlîd*, and the ensuing sceptical crisis, happen at a slightly later stage, after he has begun studying philosophy, at the age of fourteen, with teachers from different sects: Galen notices the disputes between the sects, and he also notices "that everyone claims that they themselves are giving demonstrations [*apodeiknuwîn*] and that they are refuting [*elenchein*] their debate-companions" (*On His Own Books* c11, Singer 17–18, SM II, 115; not entirely clear in context whether this is just philosophers, but probably). So Galen realizes that to resolve these disputes, he needs a secure method for constructing demonstrations, and also for judging when an allegedly demonstrative argument really is a demonstration and when it is not, but "like a counterfeit coin, resembles the genuine article but is in reality worthless" (Singer 18, SM II, 116).

So, having handed myself over to all the famous Stoics and Peripatetics of that time [sc. because these schools had the best reputation in logic], I learned many other logical theorems [i.e. non-primitive argument-forms whose validity is demonstrated from the primitive ones] which when I investigated afterwards I found to be useless for demonstrations, but very few which they had discovered to any benefit and which were aimed at attaining the intended goal [i.e. discovering demonstrations]; and, even so, these were disputed among [the philosophers] themselves, and some were also contrary to the common [lit. natural = innate] notions. And by the gods, so far as it depended on teachers, I too would have fallen into the *aporia* of the Pyrrhonists, if I had not had a firm grasp of [*katechôn*] the [truths] of geometry and arithmetic and calculation, in which, for the most part, I had been trained by my father to make progress from the beginning. (Singer 18, SM II, 116)

The problem with the philosophical sciences is not that people do not have arguments for their beliefs, or even that these arguments are not sometimes demonstrative, but that people do not hold these beliefs *because* they have

demonstrative arguments for them; they inherit the beliefs, and they inherit the arguments or invent new ones to support the inherited beliefs and refute their rivals, and they believe that these arguments are demonstrative because the arguments are traditional or because they support the right conclusions, and not because they are in fact demonstrative, even if sometimes, by good luck, they are.<sup>16</sup> Of course, the philosophers recognize that it is important to have demonstrations, and so they invent machinery for generating valid arguments; but since these arguments, no matter how they are stacked, do not reach up from genuine first principles to the desired conclusions, the philosophers surreptitiously relax their conditions for demonstration, and pass off non-demonstrative arguments as if they were the applications of their logical systems. Since the conflict here is not simply between different beliefs each claiming to be true, but between different arguments each claiming to be demonstrative, Galen needs a *criterion*, not simply in the way that reason is a "criterion" for judging the things that appear to the senses, but a criterion for judging also among the different arguments that appear plausible to reason.

Galen expands at greatest length on our need to seek such a criterion in the *Errors of the Soul*, in laying out a program for the scientific-and-moral education of his reader; but his own education, including his own successful search for a criterion or demonstrative method, as described in *On His Own Books* c11, is clearly supposed to be paradigmatic. In the *Errors of the Soul*, the process is supposed to begin with observing the disagreement of the different philosophical sects about the human *telos*. This disagreement, which it is of the highest importance for us to resolve, gives an occasion for scepticism: "according to the Academics and Pyrrhonists, who do not concede that we [can] have scientific demonstration of the things we are seeking, every assent is necessarily precipitous [i.e. non-cataleptic], and so is possibly false; and they say that it is not possible that the opinions of the philosophers who make positive assertions about goods and evils, since these conflict with each other, can all be true, although they might all be false" (*Errors* c1, Singer 128, SM I, 47). And Galen entirely agrees with the sceptics on the importance of avoiding precipitous assent (Galen personally has so disciplined himself that never since childhood has he given precipitous assent even in matters of everyday life – for example, whether that is Menippus or Theodorus approaching, or whether so-and-so is back in town as reported; for people who give precipitous assent in such everyday matters cannot be trusted to avoid error in the sciences, *Errors* c6). To make us realize the risk of error, Galen shows us the ways that we might falsely take something as evident that is really non-evident, both among things that appear to the senses and (analogously) among things that appear to reason (*Errors* c6); and he stresses the difficulty of finding a "judge" [*kritês*] or "criterion" [*kritêrion*] that will not require another criterion to confirm that we have found the right one (*Errors* c4, SM I, 61). Nonetheless, Galen believes that it is possible

to overcome scepticism, and to reconstruct a practice of assent, including assent to things beyond those immediately evident to sensation or reason, based on such a self-justifying criterion. "Someone who wants to be without error must first investigate whether there is [= can be] demonstration of a non-manifest thing; then, when he discovers [an instance of such demonstration], he must seek . . . what the demonstrative method may be" (*Errors* c1, Singer 128–9, SM I,47, picking up immediately after the passage on the sceptical challenge); then, "when he is persuaded that he has found such [a method], he must first practice it for a long time [on small matters] before he passes to the investigation of the greatest things [such as the question of the *telos* and other great philosophical issues]" (ibid.).

But Galen becomes rather mysterious and allusive about how exactly he himself has discovered such a criterion and a method, and what exactly they are. Both in *On His Own Books* c11 (recounting his own discovery) and in the *Errors of the Soul* (recommending a like procedure for his reader), Galen stresses the importance of beginning with smaller, non-philosophical subjects, especially geometry and what he calls "architecture" (his father's profession), by which he means especially the construction of mechanical devices such as sundials and water-clocks. Galen recommends these disciplines, not only because the practice of demonstration has become better established in them than in philosophy (as he says in *On His Own Books* c11, the different philosophical sects criticize each other's "demonstrations," but unite in praising those of the geometers), but also because in these disciplines you can immediately tell whether your solution to a problem is successful, whereas your errors in philosophy might remain concealed from yourself and from others (*Errors* c3, c5). So learning how to demonstrate in these disciplines will give us good training in demonstrative method in general; Galen especially recommends the model of geometrical analysis (*Errors* c4–5), both because it is specifically a method for *discovering* a demonstration of a given proposition or its contradictory, and because the successes of analysis are self-confirming, since they lead to the discovery of evident first principles and of a sequence of valid arguments from these principles to the desired conclusion (*Errors* c5, with an emphatic contrast between geometrical analysis and philosophy). Once we have practiced ourselves in discovering demonstrations in these disciplines, Galen thinks we can simply apply the same method, or transfer the same intellectual habits, to philosophy and medicine and other disciplines where we do not have immediate confirmation of our results; for the geometrical paradigm will allow us to recognize and to work towards discovering demonstrative arguments on any subject (and also to spot the defects in non-demonstrative arguments, *Errors* c3, c5). And Galen claims that geometrical demonstrations, and specifically geometrical *analysis*, have been the model for his own reasoning in philosophy and medicine; here, geometry contrasts with formal (Peripatetic or Stoic) syllogistic, which is inadequate to produce the kinds of arguments

needed in the real practice of the sciences (*On His Own Books* c11; presumably Galen said more about this in his great lost treatise *On Demonstration*, as well as in his lost monograph *That the Analysis of the Geometers is Better than that of the Stoics*). At least in extant works, though, he says very little to explain how his own modes of reasoning are like those of the geometers; apparently he thinks that if you are not practiced in geometry, such an explanation will do you no good, and if you are practiced in geometry, it will be obvious.

But Galen's emphasis on the geometrical paradigm does not mean that he adopts purely "rationalist" criteria in philosophy and medicine. Galen is in favor of observation; he berates the philosophers (contrasting them with the architects) for their inability or unwillingness to put their claims to an empirical test, even on issues that should be testable, such as whether wood is heavier than water (*Errors* c7). And Galen boasts of being able to prove his medical claims, and to confound his medical rivals, not just by reasoning but by successful cures and by observations; in particular, he claims to have discovered things in dissections that his predecessors had never seen (*On His Own Books* c2). The best doctor or philosopher will support his claims by both reason and sense-experience, and show that these do not conflict. He will also make use of the books of his predecessors, not accepting their conclusions on faith, but applying his criterion to sift what is true from what is false in them (this may also lead him, guided by a principle of charity, to favor particular interpretations of what his predecessors have said, or to judge that some of their books – especially among those ascribed to Hippocrates – are spurious). He will thus be qualified to be an eclectic rather than a member of any established sect. Still, he will prefer the ancient models (Hippocrates in medicine, Plato in philosophy) over their recent imitators and also over their recent rivals (Erasistrateans, Asclepiadeans, Methodists, Stoics, and Epicureans; to a lesser extent Herophilus, the Empiricists, and Aristotle). For it was the degeneracy of the moderns, especially their lack of scientific method, that led him to range further afield, to the mathematical disciplines but also to the books of the ancients, not so much to discover true doctrines as to discover paradigms of scientific method; once we have grasped what (say) Hippocrates' implicit method was, we can not only confirm most of his conclusions, but also discover truths beyond what he himself had discovered (so especially in *That the Best Doctor is Also a Philosopher*). Nonetheless, the best doctor and philosopher is not omniscient, and he will be suspicious of people who make grandiose claims to knowledge; he will have begun by suspending judgment on all questions not immediately evident to the senses or to reason (which includes most philosophical questions). And on such questions as whether the cosmos came-to-be or has existed from eternity, whether there is anything spatially outside it, whether the human soul is immortal, which have no connection with what is evident to us, he will continue to suspend judgment.



At this point, we should step back and ask why Galen is telling us all of this. One of Galen's most sympathetic recent students attributes to him "an intense and overpowering personal conceit,"<sup>17</sup> and of this there is no doubt. Sometimes it becomes simply unbearable to read Galen's boasting about himself – the *On Prognosis* is much worse than the works I have been discussing, and I have been selective even with these in order to trim away some of the boasting. Nonetheless, Galen's motivation in these works is not just uncontrollable boastfulness, but a rational and remarkably successful strategy of justification to establish himself (in the face of real hostility) as an authority in philosophy and medicine – indeed, as *the* authority in medicine, since it is unsafe to read the works of Galen's predecessors without also reading Galen's assessment of them (Galen warns us that it is unsafe even to read the works of Hippocrates without Galen's commentaries to settle their authenticity and interpretation, *On the Order of His Own Books* c3). By describing the defects of the education offered by his own teachers, and indeed by all recent teachers, Galen both establishes his own originality and warns his readers against going to anyone but him (personally or through his books). Of course, in the nature of his case, Galen cannot urge you to follow him slavishly either. Nonetheless, he works to establish his own authority, not only on his external successes in the practice of medicine (listed *ad nauseam* in the *On Prognosis*), but also in his independence of any established sect and his possession of a demonstrative method and of a criterion enabling him to sift the true from the false in each sect. Galen supports his claim to possess such a criterion by his many critical writings on each medical sect, and on each philosophical sect as well. For it is important to Galen's strategy of justification that he be not *merely* a doctor: his superiority to other contemporary doctors is not simply that he selects different doctrines from the different sects, but that he can base this judgment on philosophy, both because of his demonstrative method, based on logic (and mathematics), and because of his knowledge of the human body and soul, based on physics (going beyond the knowledge of even the rationalist doctors, especially into the teleological study of the parts of animals and into psychology). But it is also important for Galen to show that he did not accept a ready-made set of opinions in philosophy any more than in medicine: philosophy, like medicine, is mired in irresolvable disputes, and so here too Galen must be an eclectic, applying his demonstrative method and his criterion for good and bad arguments to sort out the truth from among the sects. And Galen helps to win his reader's goodwill, and present himself as an attractive *paradeigma* for the reader, by covering his intellectual arrogance with a kind of humility. Rather than just claiming that he possesses a criterion and has used it to determine the truth in the sciences, Galen speaks of his early *aporia*, his lack not only of scientific knowledge but also of any method for deciding it; he contrasts his own honest uncertainty with the arrogant claims of the doctors and philosophers, and he claims to have learned more toward a

criterion of truth from humbler professions such as architecture than from the philosophers; and to the end he continues to suspend judgment, against the rash claims of the different philosophical sects, on such questions as the plurality of worlds and the immortality of the soul. If we are persuaded of Galen's honesty and love of truth, and see that he has reached success in the sciences starting from a position of *aporia*, we may also be persuaded that we can follow his path to reach the same success ourselves, at least those few of us who have Galen's rare natural abilities and his rare devotion to truth.

From the *Errors of the Soul*, we might get the impression that Galen's advice to an aspiring young doctor or philosopher was first to study a mathematical discipline, then to work out a method of demonstration and a method of testing arguments on the basis of our mathematical experience, and then to apply this method directly to the disputed questions of philosophy or medicine; this need not involve reading Galen, and it might not involve much reading at all, though we might find it useful to read some earlier writers to learn the range of issues in dispute and perhaps spot the occasional demonstration in their works. But this is not what Galen is recommending in the *On the Order of His Own Books*. Rather, Galen is able, through his experiences in the search for truth, to teach you the demonstrative method, to instruct you in all the different areas of medicine and their philosophical presuppositions, and to filter all earlier authorities for you. If you want to come as close as possible to doing what Galen did, you should start by reading Galen; in particular, after some introductory material, you should start by reading Galen's *On Demonstration* (now unfortunately lost), and this, if accompanied by a natural love of truth and by practice in demonstration, will prepare you to read with profit the series of books that Galen has written not "for beginners," but for those who wish to acquire scientific knowledge. For the point of the *On the Order of His Own Books* is that there are two different "orders" that a reader may follow through Galen's books, a hard path for those who want scientific knowledge (and must thus start by learning the demonstrative method) and an easier path for those who will be content with true opinion. We might think that the second path would involve the kind of irrational attachment to a single authority that Galen has been deploring, but he tries to show that accepting his authority can be perfectly rational, though unscientific:

If someone has examined us [Galen's royal "we"] with regard both to [my] whole [way of] life and to [my] works in the art, so as to be persuaded, with regard to the character [*tropos*] of [my] soul, that we do everything without hatred or contentiousness or irrational friendship toward any sect, and with regard to [my] works in the art [i.e. the successes of my medical practice], that they bear witness to the truth of my doctrines—then he, even without demonstrative theory, will be able to benefit from our writings [*hupomnēmata*], not by exact knowledge of the subject-matter (for this belongs only to those capable of demonstration), but by right opinion. (*On the Order of His Own Books* c2, Singer 25, SM II,83)

So this would not be pure *taqlid*, because our acceptance of Galen's doctrines will not be based simply on his relation to us (he is the founder of the sect to which we belong), but on objectively observable facts about his character and practical success as a doctor. Naturally, if we are living after Galen's death or geographically far from him, it will be harder for us to make this examination, so Galen obliges us by leaving us a written record by which we can both gain confidence in his doctrines, and learn what those doctrines were. The two autobiographies (the *On the Order of His Own Books* and, written as a sequel, the comprehensive *On His Own Books*) serve as a user's guide to this written record, both for the scientific user and for the less demanding user. As Jaap Mausfeld has shown, Galen's autobiographies belong in an older and wider genre of prolegomena-literature, introductions to the collected works of some authoritative figure in a science, classifying his works, saying who they were written for and why, and how we should read them and in what order; such prolegomena typically contain a *bios* of the author, in order to show how he came to write these books, and to gain credibility for him as an authority. (A paradigm of this literature is Porphyry's *On the Life of Plotinus and the Order of his Books*, which still to this day is prefaced to editions of Plotinus' collected works, in the order that Porphyry had imposed on them.) The difference, of course, is that Galen sees *himself* as an authoritative scientific author whose works will be used for educational purposes, and he is determined to write his own prolegomena rather than leaving them to the whim of posterity.<sup>18</sup>

My concentration on Galen here may seem excessive. But since he is the founder of the genre of intellectual autobiography that Ibn al-Haitham and Ghazâlî and Descartes are pursuing, it seemed important to lay out the different elements of Galen's self-presentation. Part of the problem is that what Galen established was not so much a genre of *writing* as a more general strategy of self-presentation, which Galen tries out not just in a single canonical *Autobiography* but in passages of many different books, so I have had to bring them together to write his autobiography for him. Nonetheless, later intellectual autobiographers did tend to write one canonical book summing up the strategy of self-presentation which they had, in their different ways and to different degrees, adapted from Galen; and while the most important literary model for the genre in Galen was the *On His Own Books* (especially c11), the Galenic autobiographical genre looks more like the composite I have presented than like any one book of Galen's.

How you react to the information I have assembled from Galen depends on who you are. My official reason for describing Galen's autobiographies was to prove that the points of agreement between Ibn al-Haitham and Ghazâlî were also to be found in Galen, and thus to establish Galen as the founder of the autobiographical genre that Ibn al-Haitham and Ghazâlî share. And that much should be clear. But if, like me, you are more of an Islamicist than a historian of medicine, and were more familiar with

the *Deliverance from Error* than with the Galen texts, your reaction is likely to be astonishment that so much of what we had regarded as distinctively Ghazâlîan is in fact Galenic. Ghazâlî was of course well aware of Galen: the *Deliverance from Error*, in a passage that I will come back to, describes how we can have "knowledge that Shâfi'î [the founder of Ghazâlî's own legal *madhhab*] is a jurist and that Galen is a doctor" [i.e. that they are authorities in those fields] (Watt 67, MR 68). In the *Incoherence of the Philosophers*, in saying that most philosophers believe in the eternity of the world, Ghazâlî says that Galen was an exception among the philosophers, and quotes a passage from Galen's *On My Own Opinions* where Galen professes agnosticism about the question.<sup>19</sup> And earlier in the *Deliverance from Error*, in his list of the infidel philosophers that he had to overcome, Ghazâlî has added (alongside the usual Aristotelian-Avicennian philosophy and atheistic materialism) a page-long description of an alleged sect of philosophers, the "naturalists" (Watt 31, MR 35–6), that in fact applies exclusively to Galen (and perhaps, following him, Râzî), and includes citations of two of Galen's book-titles, the *On the Usefulness of the Parts of the Body* and the *That the Powers of the Soul are Consequent on the Temperaments/Mixtures of the Body*.<sup>20</sup> From these texts by themselves one might think that Ghazâlî knew of Galen simply as a famous ancient doctor-philosopher with pious views about natural teleology and an impious scepticism about immortality, and had no more specific engagement with Galen's texts. But, in fact, Ghazâlî follows Galen's autobiographical model very closely, and I will argue that this is conscious and deliberate.

As I have already said, Ghazâlî, like Galen and Ibn al-Haitham, describes his unquenchable thirst since childhood for genuine knowledge; his curiosity about different opinions (especially in religion); his observation of *taqlid* and his consequent sceptical crisis; his pursuit of different disciplines (in Ghazâlî's case especially *kalâm*, philosophy, and *şûfism*); his study of different sects within these disciplines as well as of different religious sects; his disappointment with most of these sects and with most of the disciplines as they were practiced in his time; and his final satisfaction with a discipline (for Ghazâlî, *şûfism*) that could overcome his scepticism and show him the path to a knowledge that would bring him close to God. Ghazâlî, like Galen and Ibn al-Haitham, describes the books he has written on all of these sects and disciplines; like Galen especially, he has made a habit of writing refutations of the errors of every sect he encountered, in order to warn his readers away from them. Ghazâlî stresses that we must refute each sect on grounds that its own followers will accept, and that to do this we must be able to expound their views at least as well as they can: notoriously, Ghazâlî wrote a refutation of the divinity of Christ based on the Gospels, and an exposition of philosophy that was accepted by Jews and Christians as an authoritative statement of the Avicennian standpoint (the only writer I can think of who has done something similar is Galen, in the *Outline of Empiricism*). In the *Deliverance from Error*, he is chiefly concerned to refute the philosophers and

the Ismâ'îlîs,<sup>21</sup> and indeed at the end of the *Deliverance from Error*, Ghazâlî sums up the content of the book as "criticism of the faults of philosophy and of [Ismâ'îlî] authoritative instruction and the faults of those who oppose them without using their methods" (Watt 85, MR 82). Nor is it merely as a means to refutation that one must learn the methods of the different sects and disciplines; like Galen, he thinks that wisdom requires mastering many disciplines, and like Galen he refuses to identify himself with any sect among them, but insists on passing his own judgment on what is true and what is false within the claims of each group. However (as Galen argues in *On the Best Kind of Teaching*),<sup>22</sup> it is not enough simply to learn the arguments on both sides and then make up one's own mind. We also need a criterion by which to judge, and we cannot simply accept a criterion offered by any of the contending parties; unless our natural faculties of sensation and reason are fundamentally sound and can be applied reliably, no amount of study will give us certain knowledge.

This is where Ghazâlî's self-presentation draws most deeply on Galen's. His intellectual autobiography is centered, not just on his unquenchable curiosity about the teachings of different groups, his refusal to accept their claims on authority, and his insistence on judging for himself, but on his search for and discovery of a criterion of truth and his application of it to judge the different sects and disciplines. He presents his sceptical crisis as the result, not simply of his discovery that his beliefs, like those of the Jews and Christians, had been based on *taqlîd*, but also on his examination of the different possible criteria that might resolve his *aporias*; this led him to conclude that neither sensation nor reason were reliable sources of knowledge, and thus that no certainty at all was possible. By showing that he has gone to the very roots of our beliefs, that he has stripped away all our layers of habitual assent and has examined and for a time rejected even the most fundamental, Ghazâlî hopes to persuade us that, when he does regain confidence in his faculties of sensation and reason and finds rules for applying them (although, like Galen, he never tells us in any substantive way what those rules are), then he is not in any hidden *taqlîd*, but is assenting only where he has established a reliable source of knowledge. Ghazâlî, like Galen, is doing this to establish himself as an authority whom we may safely trust if we do not have the strength of mind and will to go through the whole process ourselves. But Ghazâlî also has more specific aims. He wants to show, against Ismâ'îlî sceptical arguments, that it is possible to have knowledge, based on a reliable criterion, without resorting to *taqlîd* on the *imâm* (and that the content of this knowledge, in religious matters, will support sunnî religious practice, including keeping external peace with the caliph and with the broad Muslim community). He also wants to show, against his more traditional sunnî critics, that he himself has been able to study philosophy, and to use its concepts and methods and accept some of its conclusions, without falling into *taqlîd* on the philosophers (which Ghazâlî thinks is what

happens to most people who study philosophy, Watt 33, MR 38), and so without accepting their infidel doctrines; even if we do not understand the details, we should accept that Ghazâlî has been able to sort out the true from the false in the teachings of the philosophers, and we should not think that the content of his Islam has been compromised when he speaks in ways that sound suspiciously like the philosophers. Finally Ghazâlî wants to show, against the philosophers (and I think more specifically against the comments of Galen and Râzî that I have cited here) that it is possible to be a Muslim without being a *muqallid*, because the prophets have a reliable source of knowledge, analogous but superior to sensation and reason, whose superior authority the philosophers are bound to acknowledge by the same methods that they use to establish their own authority; and Ghazâlî wants to show that this same prophetic source of knowledge is also possessed (not, say, by the Ismâ'îlî *imâm*, or by anyone else who disregards normal Muslim religious practice, but) by the *şûfis*, and notably by Ghazâlî himself.

The overall strategy of the *Deliverance from Error* is brilliant and intricate, and impossible to present in brief compass without oversimplification. But I will select some aspects of how Ghazâlî's self-presentation helps him achieve his aims in the book, and I will note some ways that he seems to be drawing on or adapting Galen.

One way in which Ghazâlî's self-presentation is more complicated than Galen's is that there are two different levels of criteria that he wants to present himself as possessing. A human cognitive faculty can be called a criterion, as can a rule for applying it, and Ghazâlî, like Galen, thinks that sensation and reason (as faculties) are valid criteria, and that the demonstrative method is a valid criterion (as a rule for applying the faculty of reason). And Ghazâlî, like Galen, makes much of his claim to possess the demonstrative method, both as a way for finding demonstrations himself, and as a way for testing whether other people's arguments are demonstrations or not. But Ghazâlî also claims, unlike Galen, that there is a cognitive faculty superior to reason – the prophetic power – and that he himself possesses this power in some degree. Some of the claims of the *Deliverance from Error* turn only on the rational criterion, some on the supra-rational criterion, but Ghazâlî's encounter with Galen is important for both. So I will say something first about the sceptical crisis, then about the demonstrative method, then about the prophetic power.

As I have said, Ghazâlî presents his sceptical crisis as resulting, first from a recognition of *taqlîd*, then from a critical examination of his possible sources of certainty – namely, sensation and reason. Scepticism arises not just from a critique of dogmatic theses, but from a critique of our faculties; Ghazâlî, like Galen (notably in *Errors of the Soul* c6 and *On the Best Kind of Teaching*, concerned with such sceptical critiques) presents sensation and reason as separate and analogous powers, each with its own domain of primitively intuited truths (in the case of reason, these would be "necessary truths"

such as the principle of non-contradiction or that  $10 > 3$ , Watt 23, MR 28). Ghazālī's critique of sensation is nothing unusual, but his critique of reason is quite distinctive. The distinctive critique of reason, and also the distinctive standard of certainty that he tests our faculties against, are (as we will see) both designed to highlight features of Ghazālī's response to the sceptical challenge.

Ghazālī tests our faculties, or the particular truths that we perceive by them, by what I will call the serpent-test for certainty. The test is fundamentally psychological: the knowledge Ghazālī is looking for must be certain, that is, we must be so certain of it that once we possess it we cannot be induced to doubt or deny it. "For if I know that ten is greater than three, then if someone said to me, 'No, three is greater, by the sign [*dalīl*] that I shall transform this rod into a serpent,' and if he did transform it and I witnessed him doing so, then I would not for this reason doubt my knowledge: nothing would happen in me except wonderment about how he could do this, but not doubt about what I knew" (Watt 22, MR p.26). So Ghazālī asks what knowledge he has that would pass this serpent-test, as " $10 > 3$ " initially seems to; he finds that the only candidates are sense-perceptions and necessary truths of reason, and he then argues that neither of these really passes the test. The serpent-test is apparently original to Ghazālī, and is especially designed to eliminate all the "knowledge" that Jews and Christians and Muslims ordinarily have from *taqlīd* on their prophets, who establish their status as authorized messengers from God by performing "evidentiary miracles," such as turning a rod into a serpent in the case of Moses, or raising a man from the dead in the case of Jesus. For if I believe the doctrines of my religious community simply on the strength of an evidentiary miracle (even in the strongest case, where I have witnessed the miracle myself), then I can also be brought to accept the contrary beliefs by a more powerful miracle.<sup>23</sup> By contrast, if my confidence were based not on *taqlīd* but on my own exercise of sensation or rational intuition, it cannot be overturned by *taqlīd* on someone else, no matter what miracles he performs. However, there is still a question whether my sensory or rational judgments can be overturned, not by an external authority, but by a higher "judge" internal to me, who could overrule them as the stronger miracle-worker overrules the weaker. And Ghazālī argues that our confidence in sensation can indeed be overturned, like our earlier confidence in matters of *taqlīd*: for, just as we know that *taqlīd* sometimes deceives, we know that sensation can deceive, from all the standard cases (such as the size of the sun) where sensation leads us astray and must be corrected by reason. In such cases, "the sense-judge passes judgment, but the reason-judge accuses him of falsehood and deceit, with an accusation against which there is no defense" (Watt 23, MR 27–8). Ghazālī's talk of judges [*ḥākim*] is reminiscent of Galen, who in the *Errors of the Soul* speaks indifferently of the difficulty of finding a judge [*kritēs*] or a *kritērion* of truth that will not require another judge or criterion to

confirm its correctness (*Errors* c4, SM I,61, cited earlier). And just this is Ghazālī's problem. We have found that a judge within us, sensation, like the judges outside us, can turn out to lead us astray in judgments that seemed unproblematic. So why should we have any more confidence in the higher judge, reason?

As Ghazālī puts it, sensation can complain, "You used to trust in me, and then the reason-judge came and accused me of falsehood; if it were not for the reason-judge you would have continued to hold me true. Perhaps beyond the perceptions of reason there is another judge, who if he appears will accuse reason of falsehood in its judging, as the reason-judge appeared and accused sensation of falsehood in its judging. That this perception has not appeared is no sign that it is impossible" (Watt 24, MR 28). And, as Ghazālī's aggrieved sense-faculty further points out, when we are dreaming we make judgments that seem solid, but that when we awake we recognize as false and as mere imaginings; so why should there not be some further cognitive state that is to waking as waking is to dreaming? From the perspective of that higher state, the judgments of reason might be revealed in their turn as mere imaginings. Perhaps the *ṣūfī ḥāl* would turn out to be such a state, since the *ṣūfīs* claim to perceive things in that state that seem to contradict the usual judgments of reason. Or perhaps we will find that death is such a state, since a *ḥadīth* says, "the people are dreaming, and when they die they wake." So death or the *ṣūfī ḥāl* might correct the judgments of reason as reason corrects sensation, and might reveal a realm of objects of knowledge beyond the objects of reason, as reason reveals a realm of objects of knowledge beyond the objects of sensation.

Ghazālī's argument here is recognizably a twist on Greek sceptical arguments about the impossibility of a criterion. In form it strikingly recalls the dialogue of Democritus B125, where sensation, having been overturned by reason, talks back and says that reason has also undermined itself (though on the un-Ghazālīan ground that reason needs the evidence of the senses to give it its starting-points). This fragment of Democritus is preserved only in Galen's *On Medical Experience*, a work that is extant only in Arabic,<sup>24</sup> and that Ghazālī would be likely to have read. But the particular twist that Ghazālī gives to the argument depends on Islam and specifically on the *ṣūfī* idea of a supra-rational faculty. And although Ghazālī backdates this argument to a period before he had discovered *sūfism* (and when he could only guess what a *ṣūfī ḥāl* would be like), in fact it comes from his own mature view, not simply of prophetic revelation as superior to philosophy, but of *sūfism* as the master-discipline based on the supra-rational faculty that the *ṣūfīs* share with the prophets. This does not mean that Ghazālī's mature position is scepticism about reason: he does not believe that the prophetic faculty contradicts the deliverances of reason when reason is operating correctly. But then again, reason does not contradict the deliverances of sensation when sensation is operating correctly. Nonetheless, if we rely on sensation

not correctly guided by reason, we are likely to go astray in the things we think we are learning from sensation, and if we rely on reason not correctly guided by the prophetic faculty, we will be likely to go astray in the things we think we are learning from reason. And because we cannot be sure at any given moment that reason is not thus leading us astray, it follows that reason, although it is a legitimate source of truths, cannot of itself give us the psychological certainty that Ghazâlî has demanded.<sup>25</sup> Ghazâlî tells us that, following this argument within himself, he fell into scepticism for two months, until God cured his illness and restored him to confidence in the first truths of reason: he could have knowledge only through this special divine action on his soul, not because without it he was lacking truth, but because without it he was lacking certainty.

It is Galenic to be pushed, by one's awareness of *taqlîd* and of the interminable quarrels between the sects, to scepticism or to the brink of it, and to search for a self-sufficient criterion, from which no appeal can be made to a higher criterion. It is equally Galenic to insist that we can have no rational method for selecting among the conflicting opinions unless our natural cognitive powers are sound, and unless we have confidence in them.<sup>26</sup> But, as both Galen and Ghazâlî make clear, simply having confidence in the things that are evident to sense and reason is not enough; we also need rules for applying these powers to acquire knowledge of things that are not immediately evident. Ghazâlî, like Galen, makes much of logic, as taught by Aristotelian philosophers (for Galen, by Aristotelians and also Stoics) and above all as embodied in mathematical practice, as a method for constructing demonstrations, and as the necessary means for applying the power of reason to pass judgment on non-evident things. Galen uses his long and profound study of logic (enabling him to criticize both Peripatetic and Stoic logicians, and to write new and better treatises on the subject himself) to show his superiority to his hopelessly unscientific medical rivals. He particularly enjoys ridiculing the Methodists for their ignorance of proper logical procedure (so especially *De methodo medendi* I), and patronizing the simple-minded but generally harmless Empiricists. But even the Dogmatic or Rationalist doctors, who have pretensions to scientific knowledge of non-evident things, do not study philosophy or in particular logic, and they too fall under the same criticism. Ghazâlî follows much the same procedure in criticizing first the *mutakallimûn* (who have pretensions to a systematic science of substances and accidents, but argue dialectically from common beliefs or from their opponents' assumptions, and so fall short of demonstrative certainty, Watt 28–9, MR 33),<sup>27</sup> and then the Muslim critics of philosophy, who have failed to master logic or the other philosophical sciences that are based on logic, and so are unable to understand or properly criticize philosophy. Some of these critics of philosophy actually reject logic as a pagan Greek importation, but whether from deliberate rejection or from incompetence they are unable to discern what is a genuine demonstration and what is not, and so,

in criticizing philosophy, they make fools of themselves by rejecting philosophical doctrines that are in fact demonstrative, and so help to discredit Islam and to raise the credit of pagan philosophy. By contrast, Ghazâlî himself has in three years mastered all of philosophy (despite heavy teaching duties in other fields, Watt 30, MR 34–5), and in particular logic, which is the key to the other philosophical disciplines.

But once armed with this knowledge of logic, Ghazâlî concludes, like Galen, that the philosophers, in many of the disciplines they pursue, have fallen hopelessly short of the ideals of demonstration that they proclaim in their logic and practice in their mathematics.<sup>28</sup> “[The logicians] collect the conditions of demonstration, which are known to produce certainty without fail. But when they reach matters of religion [sc. especially in metaphysics/theology], they are unable to meet these conditions, but relax them in the extreme; and sometimes someone who admires logic and sees its clarity, considers logic and supposes that the infidelities attributed to [the philosophers] are supported by demonstrations of this kind, and hastens into infidelity before reaching [a scientific examination of] metaphysics/theology” (Watt 36, MR 41). Someone like this, who studies logic and its successful application in mathematics, and supposes that the other philosophical disciplines are just like mathematics, “becomes an infidel through pure *taqlîd*” (Watt 33, MR 38). Ghazâlî is convinced that the points on which the philosophers contradict Islam are all points where their arguments are non-demonstrative, and he devotes his *Incoherence of the Philosophers* to showing this in detail on the twenty most objectionable points, above all their assertion of the pre-eternity of the world. Now Galen too thinks that the philosophers' reasonings on these issues (including the pre-eternity or creation-in-time of the world and the immortality of the soul) are not and cannot be demonstrative, and so he suspends judgment on these questions. And indeed it may seem quite obvious to us to say that while Greek logic and mathematics are certain, Aristotelian metaphysics (including the eternity of the world-order and the theory of the movers of the heavens), or any other philosophical claims of similar scope, are much less certain. But as far as I can tell, nobody except Galen and Ghazâlî had actually said this. While the ancient sceptics attack dogmatic physics and metaphysics, they also attack logic and even mathematics with equal gusto; and Ibn 'Ainîya in Islam and Gianfrancesco Pico in Christendom were to give religiously motivated (and often acute) attacks on Aristotelian logic, meaning chiefly the *Posterior Analytics* and its methods for producing definitions and demonstrations.

Ghazâlî, then, accepts the notion that Aristotelian logic yields a method of demonstration: this gives him (he claims) an ability to assess without *taqlîd* whether a given argument is demonstrative, which sets him apart both from the followers of the philosophers, who accept the philosophers' non-demonstrative arguments out of *taqlîd*, and from the anti-philosophers who reject the demonstrative arguments along with the non-demonstrative ones.

Both of these groups try to “recognize the truth by the men and not the men by the truth” (Watt 39, MR 45), and this is all they can do, lacking an intrinsic criterion of arguments. By contrast, Ghazālī can use the demonstrative method as a criterion, like a moneychanger who can safely “put his hand into the counterfeiter’s purse and draw out the unadulterated gold from among the counterfeit and worthless [coins], since he trusts in his discernment” (Watt 40, MR 45) – very similarly, Galen had said that the demonstrative method should enable anyone who has learned it to recognize whether an argument that someone else puts forward as a demonstration “is such in reality, or, like a counterfeit coin, resembles the genuine article but is in reality worthless” (*On His Own Books* c11, Singer 18, SM II, 116, cited earlier).<sup>29</sup> Ghazālī uses this comparison to defend himself against his Muslim critics who think he should not have been studying philosophy, while also, like Galen, setting himself up as a final authority for all readers except the very few who are competent to exercise an equally critical judgment on the philosophers’ arguments. Indeed, since most people cannot distinguish good from bad arguments, and since many people think they can, Ghazālī supports “shutting the gate in preventing the masses from reading the books of the people of error, as much as possible” (Watt 40, MR 45); they should rest content with the safe bits that Ghazālī has extracted.

Ghazālī frames his criticisms of these two kinds of opponents, in terms of the general program of the *Deliverance from Error*, as “criticism of the faults of philosophy and of [Ismā‘īlī] authoritative instruction and the faults of those who oppose them without using their methods” (Watt 85, MR 82, cited earlier). He does his best to make it look as if his Muslim critics are anti-intellectuals afraid of engaging with the philosophers’ arguments, “a party of those whose minds have not taken root in the sciences” (Watt 40, MR 45), and that these people wrongly assume, simply because Ghazālī engages in discussion with the philosophers, that he must have been corrupted by them. In fact, these people had substantive grounds for thinking that Ghazālī had taken far more from the philosophers than he is willing to admit, and Ghazālī argues unconvincingly that in many cases where he and the philosophers say the same thing, the philosophers had stolen it from the prophets and ṣūfīs who existed even in Aristotle’s day (Watt 38–9, MR 44), or that Ghazālī is merely using philosophical terminology to set out ṣūfī ideas, or that he and the philosophers had come on the same thoughts independently (Watt 40–41, MR 45). A bit further on, Ghazālī actually argues that the scholar should not let ordinary people observe him taking things from a suspect source, so as not to encourage them to try it themselves (Watt 42–3, MR 47). So it is no surprise that Ghazālī does not (like Ibn al-Haitham) acknowledge Galen as a source, even while it is precisely Galen’s model that he uses to establish his independence from all earlier authorities.

Nonetheless, Ghazālī has serious criticisms of the philosophers. He believes, correctly, that many of their alleged demonstrations are not real

demonstrations, and that their methods are incapable of resolving many fundamental questions about God and the world, and he also objects to their practical contempt for Islamic law, resting on their conviction that they understand the higher aims of the law and that its practical details are needed only for the unintellectual masses.<sup>30</sup> Ghazālī thinks that a higher criterion is needed both for thought and for action, and that this can be found only in the prophetic power; and he wants to show that on the philosophers’ own grounds, they must admit such a source of knowledge superior to reason.

To understand Ghazālī’s strategy here, it helps to understand something more of what he is arguing *for* in the *Deliverance from Error* – and not just the philosophical and Ismā‘īlī doctrines and practices that he is arguing *against*. And this turns partly on Ghazālī’s personal history, and on his apologetic burden. As I have said, the caliph (or the real power, Nizām al-Mulk) had commissioned Ghazālī to refute the Ismā‘īlīs because the Ismā‘īlīs were a revolutionary threat to the state; the Ismā‘īlīs’ ideological appeal was based in part on their sceptical arguments against sunnī jurisprudence, designed to show that an infallible inspired leader was necessary, as well as on their promise to reveal a deeper inner meaning of the law, and Ghazālī’s commission was to undermine that appeal. So Ghazālī set to work refuting Ismā‘īlī sceptical arguments, showing how to give a criterion (his word is *mīzān*, a balance or weighing device) for practical-legal judgments, and, using Ismā‘īlī methods against the Ismā‘īlīs, showing that the Ismā‘īlīs, like the sunnīs, needed such a practical criterion to apply the teachings of their infallible instructor to the particular case at hand. Ghazālī, in the *Deliverance from Error*, continues to feel that his public teaching and arguing against the Ismā‘īlīs were intellectually correct, and yet he is now deeply dissatisfied with them. He speaks (in terms partly borrowed from the early ṣūfī Ḥārith Muḥāsibī) of a conviction of sin and a spiritual crisis that forced him, for the sake of his own salvation, to leave his teaching position in Baghdād and to set off on a pilgrimage and to follow the ṣūfī path of austerities and contemplation; one of his announced goals in the *Deliverance from Error* is to explain why he left, and also why he now feels it is legitimate for him to return to teaching and debate. While Ghazālī does not say explicitly what sort of sin he felt himself to be involved in, the answer becomes clear from a passage of his little treatise *The Beginning of Guidance* (translated by Watt in the same volume with the *Deliverance from Error*). He is there warning us against eating unlawful food. Food is unlawful, not only if it contains pork or wine or the like, but also if it is purchased with unlawfully obtained money, and this includes money given by someone else who had obtained it unlawfully; and we must abstain from living off of money given by someone, even if we do not know that he obtained these particular gold pieces unlawfully, if his main sources of income are unlawful: this includes “the property of the ruler and his deputies, and the property of those who have no means of

livelihood except mourning for the dead or selling wine or practicing usury or playing flutes or other instruments of pleasure" (Watt 139).<sup>31</sup> Stepping outside of the particular Islamic legal context, we can say that Ghazālī feels that he has been coopted by the state; even if sunnī legal practice is correct, Ghazālī is being paid to argue on its behalf, not because it is correct, but because it supports obedience to the state, a state that does not value religion or morality except as a means to an end; this attitude is precisely why the masses have a desire for something more, so that they are tempted to turn to Ismā'īlism. Ghazālī tries to distinguish his current program of teaching, after his ṣūfī retreat, from his old state-sponsored teaching, in that now, besides simply refuting the Ismā'īlī arguments against sunnī jurisprudence, he will provide a positive ṣūfī alternative. That is: the ṣūfis, like the Ismā'īlīs, promise to show you the inner meanings of legally prescribed acts, and performing the acts with knowledge of their inner meaning is supposed to be spiritually beneficial, a step toward the vision of God; but there is no benefit if you do not actually perform the acts as outwardly prescribed. This ṣūfī program gives Ghazālī something positive to promise as he argues on behalf of sunnī practice against Ismā'īlī subversion and philosophical indifference.

This background to Ghazālī's defence of prophecy helps to explain his particular conception of what prophecy is supposed to be. When Ghazālī defends prophecy, and specifically the prophethood of Muḥammad, he is defending not so much the Qur'ān (which most of his opponents accept, subject to their own interpretations) as the *ḥadīth* (the sayings of Muḥammad rather than the words of God revealed to Muḥammad), which are supposed to give guidelines in interpreting the Qur'ān and specifically in deriving a comprehensive legal system from it. The prophet's authority rests on his special expertise, and this is not so much a matter of God's telling him (or of his somehow intuiting) the answers to theoretical questions that reason leaves open (such as, perhaps, immortality or creation-in-time) as of his knowledge of what laws (rituals, taboos, and so on) will be most beneficial as a means toward spiritual purification and ultimately a vision of God. Here, Ghazālī is not so far from the Islamic philosophers' conception of prophecy, except that the philosophers think that philosophy contains all the knowledge that the prophet (by external prescriptions and imaginative descriptions of spiritual realities) is helping the masses toward, so that the philosopher himself has nothing more to learn and no need to be guided by the prophet. By contrast, Ghazālī wants to show that the prophetic ability, which ordains sunnī religious practice, is as superior to reason as reason is to sensation: so that the philosopher must give up his claim to knowing *a priori* the purposes of the law, and must follow the external law without initially knowing why, in the hope that he will eventually reap the gains in spiritual understanding that are the law's ultimate justification. Ghazālī thus conceives the prophet's knowledge as something analogous to the ṣūfī's

knowledge of the inner meaning and justification of religious acts. Indeed, "[the ṣūfis'] every movement and rest, external or internal, is kindled from the light of the lamp of prophecy, and beyond the light of prophecy there is no light on the face of the earth from which we may be illumined" (Watt 60, MR 62). This does not mean that the ṣūfis are prophets – Muḥammad is the final prophet – but that their knowledge and the prophet's knowledge come from the same source or power, and that the difference is one of degree. So in establishing the prophetic ability as the supreme cognitive power, Ghazālī intends to justify not only the authority of Muḥammad (and of sunnism, based on the *ḥadīth*), but also the authority of the ṣūfis, and of Ghazālī himself, as knowers of the inner meaning of the law. And Ghazālī hopes that while his readers will of course not become prophets, at least some of them will be able to experience in themselves lesser degrees of the prophetic ability, and he thinks that such a "taste" of prophecy gives us our only basis for recognizing the full-grown prophethood of Muḥammad on anything more than *taqlīd*.

Beyond arguing to undermine our confidence that reason must be the highest cognitive power, Ghazālī gives two kinds of positive arguments: first to show that prophecy exists (that is, that there have been some prophets or other), and then specifically to show that Muḥammad is a prophet. Both arguments seem to draw on ideas from Galen, and seem to be designed to go Galen one better.

The argument for the existence of prophecy is very brief, and has struck most readers as utterly mystifying, but we can shed some light on it by comparison with Galen. For here, as so often, Ghazālī refers to something we are supposed to have learned by studying medicine. "The proof of its [prophecy's] existence is the existence of cognitions in the world which could not conceivably be given by reason, like the sciences of medicine and of the stars: for whoever investigates these necessarily knows that they are not perceived except by divine inspiration and through God's help (be He exalted!), and there is no path to them by experience [*tajriba* = *empirical*]. There are some conditions [*ahkām*] of the stars which occur only once in every thousand years – how can these be given by experience? – and likewise the properties of drugs. This demonstration makes clear the possibility of the existence of a path to the perception of those things that reason does not perceive" (Watt 65–6, MR 67); Ghazālī goes on to say that we have a model for this aspect of prophecy in what we perceive in our dreams. While I am not sure I understand the astronomical or astrological argument, the medical argument is referring to a specific problem. Ghazālī's text seems to vacillate between saying that *experience* could not discover these properties and that *reason* could not, and indeed he means to say both. This comes from a Greek dispute between rationalist doctors and empiricist doctors. Galen concedes to the empiricists that they and the rationalists will prescribe the same treatments, and this seems to imply that the rationalists'

added knowledge of natures and causes makes no practical difference. But, Galen says, if we were all empiricists, many of the treatments would never have been discovered in the first place. The empiricists would like to say that the now standard treatments were first discovered by trial and error: this cure for this condition was first tried purely at random, or to satisfy a craving, or by analogy to a cure for a similar condition, but now that the cure has been observed to work, the doctor will prescribe it on the basis of experience. However, there are cases, particularly involving so-called compound drugs where the ingredients (often rather exotic) must be mixed in fixed proportions, in which it seems extremely unlikely that the treatment would be discovered by trial and error without the guidance of some causal theory of the powers of drugs. In such cases, the empiricists say (according to Galen *De methodo medendi* III, Kuehn 10,164), not that the first person to try the treatment was guided by some rationalist theory, but rather that it came to him in a dream. This is not simply a colorful way of saying that it was a random guess, nor does it come from a secular psychological theory of dreams. Rather, they are thinking of the common Greek practice of praying to a god to send in a dream directions for relief from an illness (where the dream is often to be received while incubating in a temple of the god): the dream-instructions might be purely ritual, but often they include detailed prescriptions analogous to (and surely somehow modelled on) the kinds of prescriptions that a human doctor would give. The empiricists, faced with cases where it is hard to maintain that trial and error would give rise to the actual result, but unpersuaded that rationalist causal theories would fare any better, project this current religious-medical practice historically back onto the origins of medicine, and conclude that many of the cognitions that make up the science of medicine, although they have their scientific status confirmed by experience, have their origin in some kind of divine inspiration.

This is what Ghazâlî means when he speaks of properties of drugs that could not have been initially discovered either by experience or by reason, but must have been discovered by divine inspiration and by a prophetic power analogous to what we can possess in dreaming. Ghazâlî relies on the assumption that God does indeed inspire some dreams, and that this is the most widely given form of personal communication from God<sup>32</sup>; Galen of course accepts this assumption too, and thinks that he himself has been favored with divinely-sent dreams, and he seems willing in some texts to grant that particular individuals' medical knowledge, and perhaps even the art of medicine as such, owe their origin to divine inspiration.<sup>33</sup> But Ghazâlî argues that once the doctors admit that their practice goes back to some prophet's knowledge of the properties of drugs, they should be equally willing to admit that the practices of the religious communities go back to an analogous prophetic knowledge of the properties of ritual acts (Watt 69–70, MR 71–2).<sup>34</sup> We cannot give any rational explanation of why these medical

treatments should succeed, but if we experience that they do succeed, we should credit the prophetic power of their inventor; likewise, although we cannot give any rational explanation as to why the rituals should succeed, if we experience that they do succeed, we should grant that the founder of the religious community had prophetic knowledge.<sup>35</sup> Although prophetic knowledge of ritual is analogous to prophetic knowledge of drugs, it is a higher knowledge because "the prophets are doctors of the diseases of hearts" (Watt 70, MR 72, "heart" meaning something like "spirit," as in the ṣūfî claim to an *ilm al-qulûb*). Ghazâlî is here echoing the claim, a commonplace of Greek philosophy, that there is a medicine of the soul analogous but superior to the medicine of the body. But there is a sharp edge: Galen, and especially Râzî, had claimed that they themselves were doctors of the soul as well as of the body, and Ghazâlî, while conceding their claim to be good doctors of the body, is trying to force them to admit that there is a prophetic medicine of the soul superior to any knowledge that they themselves possess; and Ghazâlî wants to claim this superior knowledge for Muḥammad, and also for the ṣūfîs including himself.<sup>36</sup>

What we have seen is the argument that there have been some prophets in the world. The knowledge that Muḥammad is a prophet depends on knowing that the prescriptions he has given do in fact succeed. What they are supposed to succeed at is "the purification of hearts" (Watt 67, MR 69; rather than, say, external successes that God might bestow on an individual or the community for good religious behavior), and the only way to test whether Muḥammad's prescription succeeds is to live a life according to the sunna and the *ḥadîth* (the example and sayings of Muḥammad), and to see whether we reap the spiritual benefits promised by various *ḥadîths*. Of course, many people live in external conformity to sunnî law without any remarkable spiritual results, and what Ghazâlî is recommending is not simply external performance. Rather, he is saying that we should pursue both the external sunnî practice and a sunnî-ṣūfî meditation on the inner meaning of the outward actions, with a correct inner disposition to accompany the actions, and only in this way will we get the spiritual rewards that the philosophers claim to give us without relying on religious law, and that the Ismâ'îlîs claim to give by revealing an inner meaning of the law that contradicts rather than deepening the outward sunnî practice.

Ghazâlî urges us to "seek certainty about prophecy by this path, not from [the prophet's] changing a rod into a serpent or splitting the moon" (Watt 67, MR 69), since such a miracle might have come from magic or from God's leading into error; and so any certainty based on serpent-changing might be overturned. This is the only place in the *Deliverance from Error* where Ghazâlî takes up the serpent-test for certainty from the beginning, and this is what he had put the serpent-test there for in the first place. Ghazâlî is claiming that we can have a different kind of certainty about the prophet's ability, not based on inference from miracles, and that this kind of certainty will not



be *taqlid* and will not be overthrown when *taqlid* is overthrown. This higher kind of certainty comes from studying the prophet's sunna and testing his prescriptions, and to the extent that we reap spiritual benefit from these prescriptions, we will also come to a knowledge of their inner meaning and purpose, so that we will have for ourselves a lesser degree of the prophetic ability, which we can use to recognize the true expert, not by mere *taqlid* but by a competent assessment of his qualities. And Ghazālī's model here is the one that his opponents will be compelled to accept – namely, Galen's model – as we have seen it earlier, for how his contemporaries and his later readers should come to recognize his authority in medicine.

If doubt befalls you about whether a given individual is a prophet or not, certainty will not come except by knowledge of his qualities [*ahwāl*], either by eyewitnessing or by transmission and report. For if you know medicine and jurisprudence, you can recognize jurists and doctors by witnessing their qualities, or by hearing their doctrines even if you cannot witness them. So you are not incapable of knowing that Shāfi'ī (may God have mercy on him!) is a jurist and that Galen is a doctor, by true knowledge, not by *taqlid* on someone else but by your knowing something of jurisprudence and medicine and reading their books and compositions; and so there comes to you a necessary knowledge of their quality. And likewise if you understand the meaning of prophecy, and study constantly the Qur'ān and traditions, there will come to you a necessary knowledge that [Muḥammad] (may God incline to him and give him peace!) is in the highest of the degrees of prophecy – confirm this by experience [*taḥriḥa* = *empeiria*] of what he says about acts of worship and their effect on the purification of hearts! (Watt 66–7, MR 68–9)

This passage is the only reference to Galen by name in the *Deliverance from Error*, and it might look like a throwaway, but it is not: this is the conclusion that Ghazālī has been building up to – namely, that the means Galen uses to validate his authority in medicine, by showing those who can the path to repeat his insights, and by displaying to the others the records of his character and his proved medical successes – that these means also validate the higher authority of the prophetic sunna as Ghazālī has systematized it, and the authority of Ghazālī himself who can do this based on his demonstrative method, his sunnī practice, and his ṣūfī experiences.<sup>37</sup> And so the *Deliverance from Error* serves to introduce and give authority to the many other books of Ghazālī that it describes, just as Galen's descriptions of his philosophical studies, scientific method, and medical experience in *On His Own Books* and *On the Order of His Own Books* introduce and give authority to the many books that present the fruits of his studies.

### III. Renaissance Christian Authors and the Practice of Galenic Autobiography

We have seen from Ibn al-Haitham and Ghazālī that Galen's self-description, as presented especially in *On His Own Books* and *On the Order of His Own*

*Books*, was recognized as one available model for medieval authors' own autobiographical self-presentations. Both Ibn al-Haitham and Ghazālī, reading Galen, could recognize their own lives in him, and Ibn al-Haitham is particularly frank about admitting it. And they also saw, in Galen's presentation of his dissatisfaction with the existing disciplines and his search for and discovery and application of a criterion or demonstrative method, a model for how they could establish their own credentials, as writers independent of authority and as authorities in their own right. There was surely a broad range of things that a medieval author could do with Galen. Ibn al-Haitham adheres closely to Galen's autobiographical form, Ghazālī more loosely. And the content that the Galenic self-presentation is used to justify might be more or less Galenic. Even Ibn al-Haitham, who cites Galen by name as his model, is much more of an Aristotelian than Galen was (though presumably his enormous medical work *On the Constitution of the Art of Medicine* was thoroughly Galenic), but Ibn al-Haitham can recognize himself in, and justify himself by, Galen's life in a way that he could not by, say, the ancient lives of Aristotle (of which at least one, attributed to Ptolemy al-Ghārib, was available in Arabic). And although Ghazālī strongly disapproves of Galen's scepticism about immortality and his rejection of the prophetic religions (while accepting Galen as a great doctor and student of the wonders of nature), and although the *Deliverance from Error* is at one level an argument against Galen, nonetheless Ghazālī genuinely admires Galen's example of a life without *taqlid*; he recognizes himself in Galen, and he tries to live up to Galen's model, trying to investigate the different disciplines and sects as Galen had, and to proceed by demonstration as Galen had, and to show by his own example that one can be Muslim without being *muqallid*. Galen's autobiography thus gives him an important positive model, both for how he presents himself to himself and for how he presents himself to others; by contrast, Avicenna's autobiography (which Ghazālī knew, and cites disapprovingly, Watt 73, MR 74), which is unrelieved boasting about his mastery of the different sciences, with no scepticism and no conflicting arguments that reason must overcome, could give Ghazālī no model and do nothing to endear him to his readers. Of course, Ghazālī is trying to out-Galen Galen, to show that there is a higher prophetic-ṣūfī medicine of souls that a Galenist ought by his own standards to acknowledge. But Galen has always called forth such attempts to outbid him. As Owsei Temkin puts it, much of Galen's work was to create an ideal, Galenism, whether Galen himself could live up to it or not<sup>38</sup>; and Galenism included the possibility of criticizing Galen by the standards of his own ideal. Thus Rāzī starts his *Doubts against Galen* by considering the reproach that he should not be attacking such a great philosopher, and one to whom he owes more than to any other man, and Rāzī replies by citing as his model Galen, who wrote criticisms of many of his great predecessors, and who condemns teachers who demand blind acceptance of their teachings. Galen would have wanted us to continue this

process by criticizing Galen, and, Râzi says, it is not impossible for us to make further progress beyond him.

Not only medieval Muslim authors, but also Renaissance Christian authors, in various ways appropriate Galen's self-presentation. Is there a line of influence from the Muslim to the Christian authors? Not one that I have been able to trace, and quite possibly there is none; the Muslim and the Christian phenomenon may be two independent growths from the same ancient root. But this does not mean that the Muslim texts are of no help in studying the Christian ones. The Muslim texts can alert us – certainly, they alerted me – to the existence of the Galenic autobiographical genre, which we can now look for elsewhere, and they can get us used to the idea that people can borrow crucial elements of their autobiographies, even of autobiographies that stress the author's intellectual independence and personal discoveries.

There is no doubt whatever that many Renaissance writers were aware of Galen's autobiography – both in the autobibliographies and in scattered autobiographical discussions in the other treatises – and that they considered Galen as one possible model for their own self-descriptions. I have discussed Descartes and Campanella, neither of whom explicitly cite Galen as a model (although Campanella does discuss his reading of Galen, and Campanella's title *De libris propriis et de recta ratione studendi syntagma* seems to recall the titles of Galen's autobibliographies). But, for example, Cardano in the preface to his *De vita propria* mentions Galen as one possible model for autobiography, though he announces that he will follow Marcus Aurelius instead; this shows both that Galenic autobiography was available as one possible form, and that people saw nothing wrong with the idea of an autobiography modelled on someone else's (and Cardano follows Galen in writing a separate *De libris propriis*, besides including an autobibliographical chapter in the *De vita propria*). I know of several other Renaissance autobiographical texts that seem to be modelled to one extent or another on Galen.<sup>39</sup> And it is important, for getting a context for thinking about the *Discourse on the Method*, that there were such texts, because it is hard to imagine Descartes' modelling himself directly on Galen without any more contemporary context. But I suspect that I do not know most of the relevant texts. And I suspect that this is because the Western tradition here will be rather different from the Muslim tradition, since Westerners tend to think of Galen chiefly as a model doctor, while Muslims often think of him as a model all-round intellectual, a philosopher and logician as much as a doctor – which is, of course, how Galen wants you to think of him. For this reason, I suspect that Western Galenizing autobiographical texts will be more often by people with technical medical training, who will have read a great deal of Galen, and who would be likely to turn to Galen's autobibliographies as guides to the vast amounts of Galen they would have to read. Unfortunately, I am out of my depth in Renaissance medicine, and will have to appeal to

my readers for suggestions about writers who may help to fill out the picture of the tradition I am sketching.<sup>40</sup> But Campanella, who was not a doctor but simply an omnivorous reader and polymath, is also clearly influenced by Galen's self-presentation, and all the points of contact that I noted earlier between Campanella and Descartes seem to be explained by a common Galenic influence, however this may have been mediated.

I will, however, mention one rather obscure Renaissance text written by a doctor, which may well be typical of many texts that I do not know and would be unlikely to know. This is by Etienne de Clave, and it is the preface to Book II of his treatise on minerals and gems, *Traitez Philosophiques des Pierres et Pierrieres* (1635).<sup>41</sup> De Clave starts by giving an apologia for his work: he would not have had the audacity to publish a work so critical of Aristotle if he had not been strengthened by the example of several recent anti-Aristotelian writers (Patrizi, Basso, Campanella, Gassendi, and "Catharina Oliva"),<sup>42</sup> and had he not reflected that even great thinkers are prone to fall into error, particularly when they are trying to reach a knowledge of things by scholastic forms of reasoning, and lose touch with sense-experience, the touchstone of all our reasoning. De Clave expands on this point, describing the contradictions into which the different disciplines (he stresses astronomy, physics, medicine) have fallen, so that those who teach them "are directly opposed to the truth, and some of them to others, and indeed many to themselves" (192). "These so manifest contradictions of the most learned have often plunged me into great doubts concerning the truth and certainty of the sciences, and especially the natural sciences, which need to have more stable and solid foundations" (ibid.); indeed, "often it would have taken only a little for me to subscribe to the vanity of the human sciences" – that is, to accept the thesis of Cornelius Agrippa, that all human disciplines (as opposed to Christian faith) are vain and uncertain (195). But de Clave's desire to serve humanity stirred him up not to despair, but to travel to seek out the most famous doctors of all lands, in the hope of finding some solidly grounded teaching among them. De Clave was, of course, disappointed. But having returned home as ignorant as before, he reflected on the old maxim that "the doctor begins where the physicist leaves off" (197; the quote is roughly from Aristotle *De Sensu* 1, also *De Juventute* c27), and began to study physics, starting by rereading his Aristotle. And despite the professed anti-Aristotelian orientation of his treatise, De Clave says that it was in Aristotle that he found the key insight that "the only way to understand the composition of things is by [first] resolving [/analyzing] them" (198). This was de Clave's great methodological revelation: "I was seized by such a desire to follow such a true axiom and maxim, as the most luminous and certain torchlight of nature . . . that I began twenty-six years ago to work diligently at this resolution [/analysis], whether of animals, plants, or minerals" (ibid.). At least sometimes, this "resolution" is meant in a very physical sense, as sorting out a physical or chemical mixture into its ingredients: "I came to

discover by means of fermentation the true key which gave me full access to wise Nature's sacred cabinet; which, after long labor, showed me the final resolution of mixtures into their purest and most admirable principles" (199). Evidently de Clave's work contains some preliminary results of this analysis as applied to minerals, but de Clave postpones a full communication of his discoveries to a more favorable time (he hints darkly at some present obstacles) when he will be able to "open the door of the treasure-house which has been barred to our predecessors up to now, to give access to it to all the lovers of truth" (200). As far as I know, de Clave never delivered on this promise.

The formal parallels between this preface and the *Discourse on the Method* are obvious, and Olivier Bloch, in an article entitled "Le discours de la méthode d'Etienne de Clave (1635)," <sup>13</sup> has brought them together: both works present themselves as "l'annonce et le programme d'une série de traités scientifiques" and include a "défense du principe de la libre critique envers l'autorité des doctes, et tout particulièrement d'Aristote, charge contre la scolastique et satire de son verbiage obscur, tableau des différentes disciplines et, théologie mise à part, dénonciation de leurs incertitudes et leurs contradictions, désir de leur donner un fondement qui pût à la fois assurer leur solidité et en permettre l'apprentissage systématique, récit d'une expérience à la fois personnelle et épistémologique qui, d'espoirs en déceptions, va de la tentation du doute universel devant l'état des sciences contemporaines à la révélation d'un principe méthodologique qui conduit à prendre pour modèle une science déterminée et à promettre des résultats féconds pour un avenir meilleur, en passant par les voyages et le retour aux sources" (Bloch (1990), 160–61). As Bloch notes, these parallels are purely formal, and the content of de Clave's and Descartes' methodological discoveries are quite different: as Bloch says, de Clave's source is Aristotelian, his master-science is chemistry, his epistemology is empiricist, <sup>14</sup> and he is in every way a far lesser light than Descartes.

Bloch is not trying to suggest that de Clave was in any way a source for Descartes; rather, he wants the juxtaposition of the two texts and the discovery of their formal parallels to reveal common "schémas et modèles culturels qui organisent également le *Discours de la Méthode* . . . schémas de pensée et schémas de présentation" (161): Bloch suggests that these common patterns go back to the Renaissance humanist and sceptical critique of the established disciplines (which is certainly right), and to "un pastiche des récits d'expérience religieuse ou mystique, initiatique ou occultiste" (ibid.; this I am more dubious about). Bloch also adds that the real originality of the *Discourse* comes out all the more strongly when it is read against the background of these common patterns, and compared with a lesser writer such as de Clave. I agree with almost all of this; what I want to add is that (apart from the stereotyped humanist criticisms of the sciences) almost all the features common to Descartes and de Clave go back to Galen, who must

directly or indirectly be a source for both (as well as for Campanella). We can also add at least two more parallels between Descartes and de Clave – namely, that they are both (like Galen) undertaking to provide the physical foundations of medicine, and that they both (like Galen) represent their basic methodological discovery as some kind of method of analysis, although Descartes' model (like Galen's) is geometrical and de Clave's is chemical. One shared feature that may make Descartes and de Clave a bit different from Galen (but close to other Renaissance Christian writers) is their need to justify why they are deviating from the inherited teaching of Aristotle, and also to reassure their readers that in repudiating scholastic philosophy, they will not do any harm to the Christian orthodoxy that that philosophy had been used to support. De Clave, as a practically trained doctor and scientist rising to philosophical ambitions, is just the sort of person that I would expect (in the West, as opposed to the Muslim world) to follow Galen's self-presentation. But this description applies, up to a point, to Descartes too – not to Descartes as he ultimately appears in the *Meditations* and the *Principles*, but to the Descartes of the 1630s.

Much of what would strike Descartes' first readers as most novel in the *Discourse* would be the medical-physiological discussion in *Discourse* Part Five, especially the circulation of the blood. And in Part Six, Descartes hopes that "in place of this speculative philosophy which is taught in the schools, one could find a practical one" (AT VI,61–2) by applying his physics to master the powers of nature, partly for constructing useful machines but "principally for the preservation of health, which is without doubt the first good and the foundation of all the other goods of this life" (AT VI,62); and it seems to be above all a medical research program for which he is appealing for support (please send money for experiments, AT VI,73). Certainly Descartes had become deeply involved in medicine in working out the details of human physiology, and especially his theory of vision, and much of the physiology of the *Traité de l'Homme* reads like a mechanized version of Galen (much of the work being done by "animal spirits," Galen's *psuchikon pneuma*), though mechanizing Galen is of course a far-from-trivial change. And to the extent that we focus on the medical sections of the *Discourse*, Descartes' epistemology will contrast with de Clave's "empiricism" less starkly than Bloch suggests. It is Galenist, on the one hand to argue against the empiricist doctors that we need a foundation for medicine in physical theory and in the theory and practice of demonstration, while on the other hand ridiculing the school-philosophers who never dare to put their propositions to the test of experiment even where the questions are genuinely testable. But de Clave assumes (like Galen in some contexts) that demonstration must always begin from premisses given by sensation, while Descartes (like Galen elsewhere) believes that reason has its own primitive objects which it can grasp on its own. Still, Descartes' emphasis in *Discourse* Part Six is on the need for experiments to determine how

the particular phenomena are derived from these rationally grasped first principles.

So it seems a likely guess that it was through Descartes' involvement in medicine, in working out the theory of vision and writing the *Traité de l'Homme*, that he encountered the Galenic style of autobiographical self-presentation, whether by reading Galen or (more probably) by reading one or more of his Renaissance imitators.<sup>15</sup> And Descartes seizes on this self-presentation, not because he wanted to tell his life story and needed some style for doing so, but in order to appropriate Galen's strategy of self-justification: Descartes (respectively Galen, Ghazālī, and so on) is the individual from whom the bonds of *taqlid* have been loosened, who has thrown out all of his old beliefs and begun afresh, accepting only what he clearly perceives at each stage and working out demonstrations to take him from first principles to testable and practically important results. We should therefore trust him. Descartes, like Galen and Ghazālī, envisages two classes of readers: there will be a few who can follow the full sequence of his demonstrations, or rather (since Descartes in the *Discourse* is refusing to publish his metaphysics and physics) can work out these demonstrations from first principles on their own, but most readers will have to settle for trusting Descartes, not through pure *taqlid* but from what they learn of his life and character and from the fruits of his method that he offers in the *Geometry*, *Dioptrics*, and *Meteors* for them to test. Descartes (like Galen and Ghazālī) is perfectly serious that he does not want all of his readers to imitate him in throwing out all of their opinions and starting again, but he hopes that the few who can succeed in this radical procedure will be inspired to try. And he hopes that by winning over a larger group by his *Essays*, he will create the demand that will allow him to publish his metaphysics and physics (despite the Roman condemnation of Copernicanism), either within his lifetime or at least posthumously, and to create a body of followers for his whole scientific system.

None of this means that Descartes' views are the same as Galen's. The most important differences between the *Discourse* and Galen (or any of the other authors I have discussed) are not in the autobiography or in the absurdly short account of method in Part Two, but in the metaphysics of Part Four and the physics and physiology of Part Five. Of course there are differences in the autobiographical self-presentation too: Descartes takes scepticism much more seriously than Galen (though not more than Ghazālī), and his provisional ethics in Part Three seems new, due partly to the need to show that he is not religiously or politically radical. But my guess is that the single most important difference between Descartes' self-presentation and Galen's (or Ghazālī's or Ibn al-Haitham's) is that, where Galen and the others had presented themselves as recapturing the true doctrine and method of ancient models that their epigones had lost, Descartes starts afresh with no reference to ancient texts, and aspires to surpass the ancients. But even this difference is not absolute: Galen too thinks that by recapturing Hippocrates' method,

we can go beyond his results, and Descartes too suggests that the ancient mathematicians had powerful methods that had been forgotten until his own time (so especially in the *Rules*, AT X,376–7), although he thinks he can surpass their results. And I want to emphasize that the difference lies in Descartes' presentation of himself as independent of the ancients, not in any actual independence of ancient models.

At this point, it is worth stepping back to ask ourselves how we feel about the practice of borrowing crucial features of earlier writers' autobiographies. There is undeniably something uncomfortable-making about it. From a twentieth-century point of view, plagiarizing your autobiography is about as low as you can stoop. You may remember the case of Joe Biden, an American politician and still Senator from Delaware, who ran for the Democratic presidential nomination in 1988. He was forced to withdraw from the race, under a wave of public ridicule, when it became known that a heavily autobiographical stump speech he had been giving had been taken almost word-for-word from a speech of Neil Kinnock's, the Labour Party leader in the U.K., substituting the name "Biden" for "Kinnock" where necessary. (The "generations and generations of Kinnocks" before the speaker who had never gone to university became generations and generations of Bidens, and so on. One of Biden's campaign workers told The New York Times about watching Biden watch the video of Kinnock's speech over and over again, apparently mesmerized, involuntarily mimicking Kinnock's hand-gestures.) Now, clearly, in the context of their own times, what Ibn al-Haitham and Ghazālī and Campanella and de Clave and Descartes were doing was not plagiarism. Ibn al-Haitham explicitly draws the parallels to Galen, with pride and not with shame, and Cardano's discussion of different possible models in the prologue to his *De vita propria* shows that it was perfectly acceptable to have a model for your autobiography, indeed that writing *without* an ancient model could be considered suspicious. Since Descartes offers his own life as a model for his readers to imitate if they approve (AT VI,4), he can hardly think it is improper to take what someone else says about his own life as a model for conceiving one's own.

From some points of view, this stylization of medieval and Renaissance autobiographies means that they were not really autobiographies. I am thinking particularly of an article by Josef van Ess arguing that the *Deliverance from Error* is not an autobiography.<sup>16</sup> Van Ess thinks that Ghazālī the autobiographer is an invention of nineteenth-century European orientalist, who, convinced that Islam in their own day was frozen in *taqlid*, saw Ghazālī as the better way Islam could have gone, the "free individual revealing his soul" in the *Deliverance from Error*; and van Ess has no trouble in pointing out various conventional and apologetic elements in the text that show that Ghazālī is not simply "revealing his soul" (and since van Ess does not notice the Galen connection, I am to that extent strengthening his case). Van Ess seems almost to be arguing that there are no autobiographies in Islam, and that this

is a Western notion inappropriately foisted on the Islamic texts. Now I have no wish to involve myself in the political issues about orientalism, and in the end I do not much care whether Ghazālī's text is called an autobiography or not. I would simply say that if Islamic "autobiographies" such as Ghazālī's and Ibn al-Haitham's are not really autobiographies, then a lot of Western "autobiographies" are not really autobiographies either. Autobiographies do not happen simply by some individual's spontaneously pouring out his soul. That there should be autobiographies at all is not automatic, and it takes a special effort, on the part of individuals and of a whole literary tradition, for them to become something more than self-defense speeches or curricula vitae. Where a literary tradition of autobiography exists, individuals who choose to make use of it to describe their own lives will to some extent stylize their self-descriptions, fitting their own lives (with appropriate changes) into descriptions that once belonged to other people; and anyone who writes an autobiography does so with some purpose, and will use both the raw facts of his life and the heritage of the literary tradition as materials for that purpose.

All this is only to be expected. Nonetheless, there remains something disturbing, or perhaps several different disturbing elements, about this sort of study of the history of autobiography. I cannot entirely resolve the difficulties, but I will offer some concluding reflections that may be of some use. The first difficulty is simply to know how much of what our authors say about their lives to believe: how far do the stylization or the apologetic programs of these works stop them from being historically accurate? (We might compare the problem in medical history, where, for example, Byzantine descriptions of plagues, which at first sight look promising for the medical historian, turn out to be useless, since the authors simply copy the symptoms from Thucydides.) Unfortunately, here I have nothing in particular to suggest, and where we do not have other biographical sources for our authors, we have to resign ourselves to not knowing. Someone may stylize his self-description simply by the way he selects which events in his life are worth telling, or the way he retrospectively conceives those events ("sceptical crisis" vs. "nervous breakdown," and so on), rather than by actually falsifying, and people actually live more-or-less stylized lives. On the other hand, when we read Galen or Descartes, we are not in the least tempted to believe their claims to have discovered a mathematically certain scientific system, and it is worth questioning why we should feel so much more cheated if something they say that is more strictly autobiographical turns out to be false. Perhaps it is because we read autobiographies looking for the personality of the author, and feel cheated if what we thought was part of this personality turns out to have been borrowed; but the authors were not writing in order to convey their personality, and cannot be held responsible for this. Perhaps the problem is more specifically with the Galenic type of autobiography, since one of the authors' main aims in writing is to persuade us that they are

independent thinkers who have rethought everything from the beginning, and indeed the texts are, on a first reading, often very good at persuading us of this. So it is disconcerting when so much, including the very description of one's own independence, turns out to be borrowed.

But independence is a matter of degree. Galen and Ghazālī and Descartes are strong-minded individuals who are creating something new, and not just reproducing the thoughts of some previous thinker, but (whether they are aware of it or not) they are indebted to their predecessors and contemporaries for many starting-points of their thought, and there is no reason why their ideal of independence should not be one of those starting-points. So perhaps our problem is that, being unable to accept their scientific claims, and trying to save something from the wreck, we fall back on something subjective, their personality or their method, and we want their first-person reports about this to be solid. (And yet, it seems to me, Galen's or Descartes' reports about the methods they followed are much less likely to be true than their first-order scientific claims. We approve of them perhaps especially because they recognize the emptiness of Aristotelian syllogistic, and take the methods of the geometers as their paradigms instead, but any attempt to trace out how their actual work outside mathematics follows these methods will lead to despair. As John Schuster puts it, Descartes' method-talk is mythic speech, and the scholar should analyze that discourse, not continue it.<sup>17</sup>) But my guess is that for many of us, the root of the problem is that when we read these autobiographical texts, we spontaneously identify with our authors' life-stories. Not with every aspect of them: we are too jaded to believe that we or anyone else will reproduce mathematical certainty in philosophy, or in whatever our other fields are, and scepticism these days is more usually chronic than acute. But especially Ghazālī's description of *taqlid* still strikes deep resonances; and we have experienced dissatisfaction with our teachers and with any one school of thought and even with any one discipline; the ideals of crossing beyond our original disciplinary training, of finding a paradigmatic "healthy" discipline that can be a model in our own more dubious fields, of resolving or bypassing the sterile disputes and stubborn prejudices of the previous generation, and so on, are still very much with us. In realizing how much of (for example) Descartes' self-description is (perhaps unconsciously) constructed, and in wondering uneasily how much of it we can still take as true, we are forced to confront the same questions about ourselves. The study of the history of autobiography is very useful for raising these questions, but it is not likely to resolve them.<sup>18-19</sup>

#### Notes

1. This chapter is dedicated to the memory of Arnaldo Momigliano, from whose lectures and writings I learned so much about biography and autobiography. I have tried to write in his spirit, although as far as I know Momigliano never

- wrote about Galen's autobiographies, the most important ancient autobiographies for my purpose here (I am not sure why not – perhaps the scientific type just did not appeal to him).
2. Remarkably little has been written on the *Discourse* as a whole (though vast amounts have been written on "Cartesian method") – Gilson's commentary (René Descartes, *Discours de la méthode, texte et commentaire par Etienne Gilson*, Paris, 1925), while full of valuable things, has little to say about the overall plan of the *Discourse* and virtually nothing about its antecedents. But see the articles by Gadoffre and Curley in Grinddi and Marion (1987).
  3. See especially Garber (1988).
  4. With a rather similar title, *Dissertatio de methodo recte regendae rationis et veritatis in scientiis investigandae*.
  5. I am not sure which was written first: the Campanella was published posthumously, in the Naudé volume, with no indication of its date of composition. (Georg Misch (1949–69), vol. 4, pt. 2 [published posthumously from Misch's Nachlass, Frankfurt, 1969], p. 735 n164, refers to an edition of the Campanella work by Naudé, Paris, 1642; I have been unable to trace this edition.) There is a recent edition of the Campanella text by Armando Brissani (Soveria Mannelli, 1996).
  6. Actually, I first stumbled on A.I. Sabra's summary of this autobiography in his excellent article on Ibn al-Haitham in the *Dictionary of Scientific Biography*, which was enough to give me the crucial information. There is now some dispute about whether there were in fact two Ibn al-Haitham's, whose works have gotten hopelessly intermixed in the bibliographical tradition (see now Sabra (1998); I have not yet seen the promised continuation). In any case, by "Ibn al-Haitham" I mean the author of the autobiography preserved by Ibn abî Uṣāibi'a (that is, the text that Sabra (1998) calls "D1"). But the resonances between this text and the prologue to the *Optics* are such that I would be very surprised if they were not by the same person.
  7. While the *On Prognosis* is even more autobiographical, Galen's self-presentation there is rather different. The main body of this chapter was complete before I was able to see Vivian Nutton's *editio princeps*, in the *Corpus Medicorum Graecorum*, of Galen's *On My Own Opinions* (Berlin, 1999), which is not primarily an autobiography but has autobiographical aspects, and some interesting variations on the types of Galen's autobiographical self-presentation that I discuss here. Nutton's commentary, in that edition, will be a very useful resource.
  8. Cp. *The Optics of Ibn al-Haytham*, tr. Sabra, I, 5–6 = v. 1 pp. 5–6: if two disciplines or sects reach different and contradictory results, these cannot be two different truths; either one or both of the paths leads to falsehood, or they both lead to the same truth, but one or both of them has not been followed correctly to the end; thus, when faced with contradictions between different disciplines or sects, we must evaluate whether each of these methods is a correct method for discovering truth, and whether it has been correctly followed by its own standards.
  9. Ibn abî Uṣāibi'a (1965), 552.
  10. I will cite the page numbers of W.M. Watt's (1953) translation, and of the Arabic edition I have used, in *Majmū'at Rasā'il al-Imām al-Ghazālī*, Beirut, 1986, v. 7.

- Here, as with the treatises of Galen translated by Peter Singer (1997) (where likewise I give Singer's page-number followed by the reference in the Teubner Galen *Scripta Minora* or in Kuehn as appropriate), I have often started from the existing English translation but have usually modified it in the interest of greater literalness.
11. Ghazālī speaks of "plunging into" the study of these different sects and disciplines, using the same verb [*kh-w-d*] that I have cited from Ibn al-Haitham in the same context (Watt 20, MR 24); compare the texts (including some Qur'ānic passages) cited by Lane (1863), Book I, p. 822 col. 3, where it is used for entering into vain speech, or for entering into the same level of discourse with those who speak vainly.
  12. On the other hand, the legal notion of *taqlīd* goes badly with Ghazālī's claim that a person cannot be knowingly or willingly *muqallīd*. Ghazālī himself admits that someone can make a rational judgment that someone else is a competent authority in a given field and decide to follow that person's judgment. Presumably a legal *muqallīd* would say that that is what he is doing, and this seems different from Ghazālīan *taqlīd*, where one follows someone else, not because he has an objective property like competence in a given field, but because he stands in a certain relationship to oneself, although one does not say to oneself that this is why one is following him. Ghazālī is also responding to Mu'tazilite and Ash'arite claims, both that *taqlīd* (about a given subject) is incompatible with knowledge (about that subject) and that *taqlīd* is legally/morally forbidden, and *naẓar* commanded, on fundamental religious and moral questions.
  13. The financial advantage might come, not just from being able to support myself by teaching, but also from the tax-exemption granted to philosophers.
  14. For all these texts, see Walzer (1949), 10–15.
  15. Rāzī (1939), 303.
  16. This is very close to Ghazālī's explanation of why the scholars, as well as the ordinary believers, are in *taqlīd*, in the texts cited and analyzed by Richard Frank (1991–2), 231–4.
  17. Nutton (1988), III, 324.
  18. See Mansfeld (1994).
  19. Marmura ed. (1997), 12.
  20. None of the editors or translators seems to have recognized the obvious reference to Galen. Ghazālī says: "The second group are the naturalists [*ṭabī'iyūn*]: they are a party who constantly investigated the science of nature and the wonders of animals and plants, and constantly plunged [*kh-w-d*] into the science of the dissection/anatomy of the parts of animals. And what they saw there of the wonders of God's craftsmanship (be He exalted!) and the inventions of his wisdom compelled them to acknowledge a wise creator who is aware of the ends and purposes of things. No one can study anatomy and the wonders of the uses of the parts [*ajā'ib manāfi' al-a'dā'*] without there coming on him this necessary [i.e. spontaneously forced on us rather than acquired through inference] knowledge of the perfection of the governance of the constructor in the construction of animals, and especially the construction of man. But to these men, due to their constant investigation of nature, it appeared that the

balance of the temperament/mixture [of the four humours] has great efficacy in constituting the powers of animals. And so they thought that even the intellectual power of man is consequent on his temperament/mixture [*anna al-qiwah al-'aqlah min al-insân tâbi'ah li-mizâjîhi aydan*], and that it is corrupted and annihilated with the corruption of the temperament/mixture. Then, when it has been annihilated, it is unintelligible (they think) for the non-existent to return. So they think that the soul dies and does not return, and they reject the hereafter and deny paradise and [hell]-fire and resurrection and judgment, so that there remains for them no reward for obedience nor punishment for sin: so that the bridle is released from them, and they abandon themselves to their appetites like the beasts" (Watt 31, MR 35–6). The references to Galen's *On the Usefulness of the Parts of the Body* [*Kitâb manâfi' al-a'dâ'*] and *That the Powers of the Soul are Consequent on the Temperaments/Mixtures of the Body* [*Kitâb fî anna qiwah 'l-nafs tâbi'ah li-mizâj al-badan*] (with the latter work's most notorious implication spelled out in detail) are unmistakable. ("Naturalists" also turn up in *kalâm* doxographies, meaning those who believe in the causal efficacy of "natures" or natural powers, as against the view of most Mu'tazilites that only beings with free will are causal agents, and the Ash'arite view that only God is a causal agent, but these "naturalists" have nothing to do with the teleological investigation of the parts of animals, or with Galen's thesis of the soul's dependence on the proper mixture of the four humours.) Ghazâlî speaks as if the "naturalists" appeared before the "theists" or "metaphysicians" Socrates, Plato and Aristotle ("The theists/metaphysicians [*ilâhîyûn*] are more recent than [the materialists/eternalists {*dahrîyûn*} and the naturalists]: Socrates, who was the teacher of Plato, who was the teacher of Aristotle. . . . They together refuted the two earlier groups, the materialists/eternalists and the naturalists, and succeeded in revealing their defects to such an extent that they relieved others of the task," Watt 32, MR 36), but this is explained by the fact that "*tabî'iyûn*" is also the word used in the Arabic translations for Aristotle's "*phusikô*" for the pre-Socratics (and it is true that Platonists and Aristotelians, though not Plato and Aristotle, wrote against Galen's thesis on the rational soul). But Ghazâlî's description of the naturalists' researches and conclusions applies only to Galen and not to the pre-Socratics.

21. The Ismâ'îlis were the most immediate threat: they argued, on sceptical grounds, that the usual Muslim authorities or types of reasoning were incapable of determining what is legally/morally commanded, and that only their *imâm* could determine the law: this undermined the authority both of sunnî religious practice and of the caliph or his vicegerents, and the Ismâ'îlis were indeed using the authority of their *imâm* both to alter religious practice and to promote violent uprisings against political authorities; Ghazâlî had been commissioned by the caliph, or by the real powers behind the puppet caliphate, to provide arguments to check the growing appeal of Ismâ'ilism, and indeed one of his motivations for refuting the philosophers is that the Ismâ'îlis were using neo-Platonic philosophy to fill out the content of the wisdom supposedly received from their *imâm*.
22. But note that this book, unlike the other books of Galen that I cite, seems not to have been translated into Arabic (it is not listed in Hunain ibn Ishâq's *Risâla* on

his translations of Galen, or in Ibn al-Nadîm's *Fihrist*, or in Manfred Ullmann's list of Arabic translations of Galen in his [1970]).

23. Thus the mere fact of a marvelous occurrence cannot prove truth, since such marvels might happen on both sides: Pharaoh's magicians also turn their rods into serpents, and are we really going to settle the issue by the fact that Moses' serpent eats their serpents? Later in the *Deliverance from Error*, Ghazâlî says that even if the Ismâ'îlî *imâm* publicly performed the miracle of Jesus, that would not in itself prove his truthfulness, since "no one knows that miracle is a sign of truthfulness unless he knows magic and how to distinguish it from miracle, and unless he knows that God does not lead his servants into error" (Watt 51, MR 53).
24. Though two small sections, one of them including the Democritus quote, turned up in Greek and were published in 1901. There is an edition and translation of the Arabic text of the *On Medical Experience*, with a brief discussion of its history and significance, including the Greek fragments and the references to Democritus, in Walzer (1944). As Myles Burnyeat points out to me, Democritus' senses do not actually say that reason needs their evidence for its starting points: they merely ask "wretched mind, after having accepted our evidence [*par' hêmeôn labousa pisteis*] do you overthrow us? The overthrow is your downfall." This might just be read Ghazâlî's way.
25. As Racha Omari has noted in an unpublished paper, Ghazâlî is probably influenced here by the Mu'tazilite definition of knowledge as "true judgment accompanied by rest in the soul" – that is, true judgment that is also psychologically unshakeable; compare with Greek definitions saying that knowledge must be *ametaptôtos*.
26. So especially the *On the Best Kind of Teaching*, which stresses that having sound faculties but not trusting them is just as bad for science as not having sound faculties.
27. Cp. Galen's obsession with ranking other people's arguments as demonstrative or dialectical or rhetorical or sophistical, especially in the *Placita of Hippocrates and Plato*. There is useful discussion of Galen's practice here in Teun Tieleman (1996).
28. Ghazâlî thinks of mathematics, as one of the Greek sciences, as forming part of philosophy.
29. Presumably in both Galen and Ghazâlî, counterfeiting is not so much faking state authorization as passing off base metal, or a mixture of precious and base metals, as if it were the precious metal.
30. Ghazâlî complains in particular about Avicenna's drinking, and about Avicenna's excusing or outright bragging about it in his autobiography.
31. It was a fairly common sûfî view that gifts from rulers are unlawful or of questionable lawfulness and that a pious person should avoid them. In the *Deliverance from Error*, on a list of complaints about the '*ulamâ*' that have led to general contempt for the '*ulamâ*' and for sunnî practice, Ghazâlî lists, on a par with drinking and outright corruption or non-performance of basic religious duties, "so-and-so eats up the largesse of the ruler and does not guard himself from forbidden things" (Watt 72, MR 73). Ghazâlî says in a letter that at the time of his renunciation of teaching he took a personal vow, before the tomb of

- Abraham in Hebron (where he had made a pilgrimage, described also in the *Deliverance from Error*, Watt 59, MR 61), that he would never again accept money from a ruler (the text – in Persian, a language that I unfortunately do not read – is in *Makâtib-i Fârsi-i Ghazzâlî*, ed. ‘Abbâs Iqbâl, Teheran, 1954, 45; there is a German translation in Krawulsky [(1971) 66]).
32. So Ghazâlî, Watt 64, MR 67, and cp. the *ḥadîth* “the dreams of a wise man are one-fortieth part of prophecy.”
33. For Galen’s attitudes toward dreams and inspiration, see Nutton’s discussion and references in his edition of Galen’s *On My Own Opinions*, 135–7. Where Galen seems to go furthest are in the fragments of a commentary on the Hippocratic *Oath* preserved by Ibn ‘abî Uṣaib’a, for which see Franz Rosenthal (1956): “Those who say that God created the craft of medicine argue in favor of that by referring to the fact that such an exalted science cannot be invented by the intellect of man. This theory is the theory of Galen, and this is the text of what he mentions in his *Commentary on the Book of the Oaths by Hippocrates*” (59): “In his *Commentary on the Oaths by Hippocrates*, he [Galen] says: people in general bear witness to the fact that it was God who gave them the craft of medicine through inspiration in dreams and visions delivering them from severe diseases. Thus we find an innumerable large number of people to whom their cure came from God, some [obtaining it] through Serapis, and others through Asclepius, in the city of Epidaurus, the city of Cos, and the city of Pergamon – the last-mentioned one being my own city” (60). Rosenthal is not sure whether these fragments are authentic, and neither am I. But they were available in Arabic and attributed to Galen, and if Ghazâlî was aware of these or similar texts and thought they were by Galen, this would give added bite to his argument. As Nutton also notes, Iamblichus in his *De mysteriis* (3,3) asserts, and Philostratus in his *Life of Apollonius of Tyana* (III,44) argues (both in talking about Asclepius), that the art of medicine arose from divine inspiration; Philostratus’ argument, about the implausibility of discovering the uses of exotic and dangerous drugs through experiment, is close to Ghazâlî’s. So such ideas were certainly current in late pagan antiquity, however exactly Ghazâlî may have become aware of them.
34. Ghazâlî here draws an extended analogy between compound drugs mixed in fixed proportions and the combination of different ritual elements with, for example, their time-lengths in fixed proportions.
35. Ghazâlî gives a number of examples of the vanity of rationalist attempts, either to show *a priori* that some phenomenon could not happen, or *ex post facto* to explain why it did happen. Particularly interesting is the example of the cooling power of opium, which is much greater than that of the cold elements (earth, water) contained in opium (Watt 78–9, MR 78–9): this seems to be referring specifically to Galen’s discussion of the cooling properties of opium in *On Mixtures* Book III. Ghazâlî says that the opponent has been forced to admit this rationally inexplicable property of opium, and should therefore admit similarly inexplicable properties of religious ritual. Ghazâlî calls this opponent *al-ṭabîʿ*. Watt translates “the physicist,” which is the usual meaning, but this is the same word used before as the name for a sect of philosophers (“the naturalists”) – that is, as we have seen, effectively as a proper name for Galen.

36. As Sarah Stroumsa has shown in her (1999), esp. 93–107, Râzî in his *Kitâb Makhârîq al-Anbiyâ* had attacked the traditional apologetics based on prophetic miracles, arguing that the prophets could have done all these things by trickery. Ghazâlî’s apologetics, which warns us against the argument from miracles and directs us instead to the prophet’s knowledge of the psychological effects of ritual, is thus (among other things) a reply to Râzî’s challenge, arguing for prophecy on a basis that Râzî would be forced to admit.
37. Ghazâlî may perhaps intend a reference not only to Galen’s methods for validating his own authority, but also to Shâfiʿî’s, since Shâfiʿî’s disciple Ibrâhîm Muzanî cites Shâfiʿî as forbidding *taqlîd* whether of himself or of others (Muzanî, *Mukhtaṣar* 1, cited *Encyclopedia of Islam* (II) s.v. *taqlîd*).
38. Temkin (1973), for example, 8–9.
39. Georg Misch’s *Geschichte der Autobiographie* (not just the *History of Autobiography in Antiquity* available in English [Misch (1950)], but the mammoth *Geschichte der Autobiographie* [Misch (1919–1969)]), is a treasury of information, with references to many Renaissance autobiographies, some of them clearly indebted to Galen. Misch discusses both the Ibn al-Haitham and the Ghazâlî texts (vol. 3:2, 984–91 and 1040–76), and was aware that they both belonged somehow to a Galenic type of autobiography. Misch also mentions the *Discourse* as belonging to “the definite type of self-portrayal exhibited by Galen” (*History*, v.1, 332), but Misch died before finishing the work, and volume 4, edited from Misch’s notes by his students, contains only a superficial two pages on the *Discourse* (vol. 4:2, 736–7) with no mention of Galen. Misch never connects the dots to give any connected discussion of a Galenic genre (he comes closest in *History*, v.1, 328–32), but his work contains suggestions, here and on much else, that might be fruitfully pursued. (By contrast, awareness of the Galenic subvariety of autobiography seems to have entirely vanished from the more recent, and more theoretically sophisticated, literature on the history of biography and autobiography.) Two works that I have looked at, and that contain explicit references to Galen’s model, are Cardano’s *De libris propriis* (Leyden, 1557) and Conrad Gesner’s article on himself in his *Bibliotheca universalis* (Zürich, C. Froschouerum, 1545; the article on himself, “Conradus Gesnerus Tigurinus” in due alphabetical order, is pp. 179v–183r). The Cardano on p. 3 gives the fuller title *De libris propriis, eorumque ordine et usu, ac de mirabilibus operibus in arte medica per ipsum factis*, alluding to both of Galen’s autobiographies and also to the *On Prognosis* (cited and emulated explicitly pp. 149–51); Cardano is in general obsessed with rivalling Galen. Cardano cites various models, and chiefly Galen, in defense of his speaking or boasting about himself: “verum quibus grave videtur, quod cum librorum meorum Elencho aliqua de me gloriosius scripserim, hi nihil agunt aliud quam quod fatentur se Hieronymum, Augustinum, Ciceronem, Galenum, Erasmus nunquam legisse, aut si legerint, omnino contempsisse. Namque hi omnes haec omnia scriptis suis mandarunt, quamquam quidam obscurius, quidam diffusius. Nos tamen Galenum in primis sequuti, qui, ut ingenium decet virum, aperte et sine dissimulatione aliqua haec omnia complexus est, non solum a iusta accusatione, sed etiam a calumnia in tutos fore nos existimamus” (8, and cp. 54–5). Gesner cites as models “Hieronymus, Gennadius, Honorius, Sigebertus, et Ioannes Trittenhemius,” who “suas ipsi lucubrationes catalogis



scriptorum, quos ecclesiasticos vocant, inseruerunt." and then also "divus Augustinus . . . de vita sua et scriptis libros *Confessionum* et *Retractationum* addidit; et Cl. Galenus opusculum *De libris propriis*, et alterum *De ordine suorum librorum*" (179v). However, many of these Renaissance texts are less promising than they sound: Galen gives them a formal model or excuse, but often they are dry catalogues of compositions, or boasts of accomplishments, with nothing about the author's own process of discovery or of overcoming of methodological obstacles – in this respect resembling another frequently cited model, Cicero *De divinatione* II.i, 1–ii.7 (and cp. the end of the *Brutus*), more than Galen or Ibn al-Haitham or Ghazālī or Descartes.

40. This appeal was originally directed in the first instance to my London commentator, Vivian Nutton, who indeed supplied many references to Renaissance medical autobiographies, many of which I have not yet been able to pursue. Nutton also points to Renaissance biographies of Galen, sometimes serving as prefaces to printed collections of Galen's works, which drew heavily on Galen's autobiographies and could thus transmit Galen's self-presentation as a possible model for Renaissance writers to use in describing their own lives: see Nutton (2003). Both Cardano and Gesner, cited in the previous note, as well as van Helmont, cited in the following note, and de Clave, discussed in the main text, were doctors.
41. I would like to thank Dan Garber for bringing this text to my attention. I would also like to note here another, more famous and fascinating text, highly idiosyncratic but obviously in the Galenic tradition, which Catherine Wilson first called to my attention. This is the autobiographical beginning of Jean-Baptiste van Helmont's posthumously published collected works, the *Ortus Medicinae* or (to use the odd title of the seventeenth-century English translation, which I will cite) *Oriatrike*. Van Helmont died in 1644, and his works were published by his son Franciscus Mercurius van Helmont in 1648 (Amsterdam, with Elzevier, the same publisher as for Descartes and Campanella); the English version appeared at London in 1662 (I am using the London edition of 1664). I do not know whether his autobiographical preface was written before or after the *Discourse*, but neither Descartes nor van Helmont could have had much use for the other. Van Helmont appropriates many aspects of Galen's self-presentation to himself, although with Christian and alchemical twists and a much higher proportion of inspiration to logic (van Helmont relies on divinely inspired dreams, like Galen but much more so); but he is also malevolently obsessed with Galen, even more than with Aristotle (see, for example, the chapter on "the ignorant natural philosophy of Aristotle and Galen," 41–7, with a particular attack on Galen, 46–7). Naturally, van Helmont has to be concerned with Galen, since he is trying to overthrow orthodox Galenic therapeutic practice and the natural philosophy it is based on (particularly the claim that diseases result from imbalances of the four humours, and should be treated by restoring that balance; van Helmont thinks that diseases are caused by something like a Lucretian "seed," but under the guidance of an incorporeal spirit, attacking the body). But his resentment of Galen also has to do with Galen's claims for his scientific method ("Afterwards Galen . . . framed Suppositions or Complexions, humours and degrees, promising in an easie Method, Mathematical demonstrations of

those things, which nature onely is able to measure: which same things, he [= nature] kept secret to himself, and at length, laid open some things to Alchymists alone" (2)), and with Galen's success in eclipsing his predecessors and taking sole credit for himself ("But Galen snatching the glory of his Predecessors in to himself, extended his own Art, contained in a few Rules, into huge Volumes" (3)). The following passage captures the tone:

I indeed, even from my tender bones or years, have esteemed knowledge before riches . . . Indeed Physicians demanded, why I lesse cured according to Galen, and refused to follow them, or the flock of those that went before them? . . . Straightway I learned, the more to doubt of the steadfastness of Galen's speculations, after I had beheld the very Maxims of the Schooles themselves, to be full of sores and defects; then at length, by little and little, I more and more confirmed this conceit, by Discourse and Experience; to wit, that every way, the Seeds of ignorance, by the same contagion, pierced even into the Root of healing, and minds of the healers. Therefore I straightway left off all Books of all, accurate Discourses, and empty promises of the Schooles, firmly believing every good gift to come down from the father of Lights [James 1:17], and rather also, that of Medicine Adeptical. I have thorowly viewed some foreign Nations, and I found almost the same sluggishness and ignorance amongst them all. But those who were the more diligent seekers after knowledge, indeed I found also more steadfast in their purpose, and more circumspect in presuming; but alike, yea more ignorant than the rest. In the mean time, it ingeniously grieved me, of the pains I before took, and of the disquietness I endured in learning. But in multitude of Books there was no where comfort or knowledge; but vain promises, abuses, and very many errors. Therefore I long since considered with myself, that the Art of healing was a meer juggle, brought in by the Greeks; till at length, the holy Scriptures better instructed me. . . . In the mean time, Reader, I am angry with myself, because it is scarce lawful to open my conceptions, in the truth, without hurting the esteem of Authours gone before me. But the liberty of former Ages hath raised me up, which made Galen to go unpunished, yea to be praised, although he frequently makes Erostratus, Asclepiades, Protagoras, Erasistratus, Herophilus (I here make no mention of Moses) and many that were before him, guilty of error; yea, and he hath often curped at Quintus his master, whom notwithstanding (though an Empiricist) he witnesseth, that he hath followed in most things (7–8).

There is also a sceptical crisis (11) on the completion of his official philosophical studies in his seventeenth year, then a series of experiments with and rejections of various academic disciplines; all this bears comparison with Descartes.

42. A "docte Espagnole," evidently Luisa Oliva Sabuco de Nantes y Barrera, author of a *Nueva filosofia de la naturaleza del hombre* (1587), written from a medical standpoint. But I cannot explain why De Clave calls her "Catharina."
43. Bloch (1990).
44. This last is actually putting it a bit too strongly, since de Clave stresses, against the empiricist doctors, that he is looking for philosophical reasons, and for physical foundations of medicine, although the reasons must have a point of departure in sense-experience.
45. But it is noteworthy that in a letter of 30 March 1628, Guez de Balzac reminds Descartes of "l'histoire de vostre esprit," which Descartes had apparently promised to write, whereas Descartes' intense involvement with medicine seems to date from the early 1630s. But we do not know how close Descartes' promise

of 1628 would have been to the published *Discourse*, and he may also have encountered the Galenic autobiographical tradition even by 1628.

46. Van Ess (1987).

47. See Schuster (1986). We can thus see how to answer one criticism I have heard – namely, that I have assumed that the parallels in our authors' self-descriptions are due to borrowing, when they might just be due to objective similarities in their lives, since they all faced the same objective need of discovering a method for their scientific work. The answer is that it is impossible to figure out, from our authors' descriptions of their methods, what methods they actually followed; it will not work, and is the wrong order of explanation, to explain their method-talk as the result of their method-practice. I do not mean that method-talk is just window-dressing; it is very important in creating an ideal that can be used in criticizing earlier thinkers (for example, Ghazālī's criticism of the failure of the metaphysicians' demonstrations is brilliant and largely correct), and the ideal does, in the long run, have an effect in shaping scientific practice.

48. Let me repeat from before that I have only been trying to supply one relevant context for reading the *Discourse on the Method*: I do not claim that this is the magic key to the *Discourse* or that it will of itself produce radical revisions in our interpretation, and I know that I have said very little here about the *Discourse* itself. Let me also note another way in which the picture I have sketched is incomplete. I have begun the story with Galen, because he seems to be the immediate source for both the Muslim and the Renaissance Christian traditions I have described (though of course I must be missing many important figures), and I do not know anyone before Galen who is directly comparable to Galen. But there are still questions about Galen's appropriation of earlier intellectual self-descriptions, and about Galen's relation to other late ancient writers who do not appear to be indebted to him. One obvious possible antecedent for Galen is the Platonic Socrates' (probably largely fictional) account of his disappointments in physics and his "second sailing" in dialectic (*Phaedo* 96a5–100a8; this was suggested already by Misch, *History*, v.1 pp.106–7 and p.331). Another comparandum, not strictly an autobiography, is Sextus Empiricus' account of the typical Pyrrhonist's life-story (P.H. I.xii,25–30): first a dissatisfaction with the contradictions among appearances and a conversion to philosophy, then a disappointment and despair with philosophy itself, leading to the attainment of happiness through the suspension of judgment. This sounds like the Galenic story, except that the Pyrrhonian crisis is permanent and cheerful. Is Galen responding to a Pyrrhonist version of the story? Or perhaps Galen and Sextus are both independently responding to a simpler Stoic conversion-to-philosophy narrative, such as we find (without first-person reference) in Epictetus *Discourses* II.11, "What is the beginning of philosophy?" (There, what turns people to philosophy is the recognition of the insufficiency of mere opinion and the search for a criterion, and the way people recognize the insufficiency of mere opinion is by recognizing that their opinions conflict with their neighbors', or with the opinions of foreign nations. But Epictetus does not talk about conflict between different schools of philosophy [or of any other discipline], or about people who believe things simply because they follow some authority. The problem seems to be simply that we are born with concept of good and bad, right and

wrong, and so on, and that we proceed to apply these concepts without adequate knowledge and without feeling that we need to be taught how to use them.) Another intellectual autobiography with some interesting parallels both to Galen and to Sextus is Justin Martyr's, in the early chapters of the *Dialogue with Trypho*: at the moment I do not know how to account for these similarities. A larger question is about the relation of what I have called the Galenic autobiographical genre to Augustine's *Confessions*. Augustine too has early scholastic successes, an ambition for a higher wisdom, disappointments with various sects and disciplines, a sceptical crisis, and a resolution through the discovery both of the Plotinian method of ascent from bodies to soul and God, and of specifically Christian practices (faith in the scriptures, submission to church authority, allegorical interpretation of scripture). I have noted earlier Jaap Mansfeld's placing of Galen's autobibliographies within a tradition of biobibliographical prolegomena to an author's collected works (such as Porphyry's *On the Life of Plotinus and the Order of his Books*), and Augustine's *Confessions* + *Retractions* serve exactly this purpose in many editions of his works. But it is hard to imagine that Augustine knew Galen's autobiographies, or would care, and my feeling is that Augustine is a more original and idiosyncratic autobiographer than the others I have discussed, although this is a matter of degree. The *Confessions* is also much more God-centered than any of the other works, even the *Deliverance from Error*, although of course the Augustine and Ghazālī texts have often been compared; the Ghazālī is to this extent more properly autobiographical. We can also ask to what extent the Galenic and Augustinian influences merge in later Christian writers. I have emphasized elsewhere how deeply Descartes' *Meditations* are indebted to Augustine, but my sense is that the *Discourse* (except for the metaphysics of Part Four) is not. I do not know how to proceed here.

49. I would like to thank Rachana Kuntekar, Alison Laywine, Yaseen Noorani, and Rob Wisnovsky for comments on early drafts of this chapter, Vivian Nutton and Doug Wright for their comments in London and Toronto respectively, members of those audiences for their questions, and Richard Frank, Alexander Nehamas, Jim Whitman, and Fritz Zimmermann for more recent comments.

# Hellenistic and Early Modern Philosophy

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 **CAMBRIDGE**  
UNIVERSITY PRESS

PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE  
The Pitt Building, Trumpington Street, Cambridge, United Kingdom

CAMBRIDGE UNIVERSITY PRESS

The Edinburgh Building, Cambridge CB2 2RU, UK  
40 West 20th Street, New York, NY 10011-4211, USA  
477 Williamstown Road, Port Melbourne, VIC 3207, Australia  
Ruiz de Alarcón 13, 28014 Madrid, Spain  
Dock House, The Waterfront, Cape Town 8001, South Africa

<http://www.cambridge.org>

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First published 2003

Printed in the United Kingdom at the University Press, Cambridge

Typeface: ITG New Baskerville 10/12 pt. System: L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> [TB]

A catalog record for this book is available from the British Library.

Library of Congress Cataloging in Publication Data

Hellenistic and early modern philosophy / edited by Jon Miller, Brad Inwood.  
p. cm.

Includes bibliographical references and index.

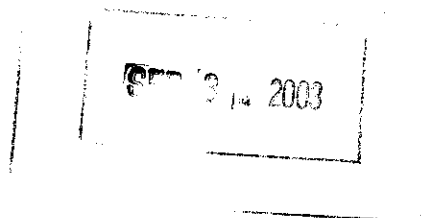
ISBN 0-521-82385-4

1. Philosophy, Modern – 17th century – Congresses. 2. Philosophy, Modern –  
18th century – Congresses. 3. Philosophy, Ancient – Congresses. I. Miller, Jon, 1970–  
II. Inwood, Brad

B801 .H45 2003

190–dc21 2002031073

ISBN 0 521 82385 4 hardback



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