CHAPTER I.3

Galen's philosophical and medical antecedents

As should be readily apparent from the brief outline of Galen's life given above, he was well versed in philosophy and this is clearly reflected in his writings. That he had a detailed knowledge of earlier medical writings and an active engagement with contemporary medical theories and practices goes without saying. The extent to which other philosophers and doctors, both predecessors and contemporaries, are mentioned in his many works is very variable as, indeed, is the treatment they are accorded. Those referred to in the translated treatises in the present work are listed in Table 2. It is noteworthy that in these works references to, and remarks about, different individuals are altogether temperate in tone, in striking contrast with those in some of his other works, for example *De methodo medendi*.

Considering philosophers first, Plato is undoubtedly the one that Galen most obviously and overtly respected. As De Lacy writes:

> Plato is repeatedly praised. He is first among philosophers, as Hippocrates is the best of all physicians. Like Hippocrates, he is 'divine'. He is a member of the 'chorus' that is closest to God, whose members are devoted to the pursuit of the highest arts and sciences and are honoured equally with the gods.[1]

The matters on which Plato is of particular relevance to Galen include: the basic structure of the body, relying on ideas of elements, qualities and humours as propounded in the *Timaeus*;[2] the recognition of design in nature, involving the concept of the 'Demiurge';[3] the tripartite division of the soul, including consideration of the physical correlates of the psychic;[4] and, of special relevance to the present study, Plato's ideas on causation in general and in medicine in particular, as expounded primarily in the *Timaeus* and the *Phaedo*.[5] On a somewhat more minor (but nonetheless important) issue, Galen's agreement and identification with Plato on the

[1] De Lacy (1973), pp. 32–3. [2] *Timaeus* 48b ff. [3] *Timaeus* 28a ff.
[4] *Timaeus* 69c–71a, *Phaedrus* 253 ff. [5] *Timaeus* 82a, *Phaedo* 97–100.

Table 2 *Other authors referred to in the four treatises*

Author	*Diff. Morb.*	*Caus. Morb.*	*Diff. Sympt.*	*Caus. Sympt.* I	*Caus. Sympt.* II	*Caus. Sympt.* III
Hippocrates		III.2 Cold diseases (*Aph*)		II.3 ref. to *De plac. Hipp. et Plat.* II.1 Visual illusions VI.1 Pleasure and pain VI.3 On terms VI.6 Tetanus (*Aph.*)	II.2 Abn. respiration (*Acut.*) II.3 On spasm (*Aph.*) V.1 Origin of pain (*Loc. hom.*) V.6 Genesis or rigors (*Aph.*) V.9 Fever and rigor (*Aph.*) VII.2 Melancholia etc. (*Aph.*)	VII.1 Diarrhoea after loss of a limb (*On Joints*) VIII.3 Kidney and bladder conditions (*Aph.*) VIII.3 Failure of digestion (*Prog.*)
Plato			I.3 On affections IV.4 On naming	II.3 Ref. to *De Plac. Hipp. et Plat.* VI.1 Pleasure and pain VI.3 On terms		
Aristotle				VIII.3 Sleep		IV.2 Changing characteristics
Athenaeus					III.1 Causes of fever IV.2 Cough	
Praxagoras and Philotimus				VI.5 Additional humours VII.7 Additional humours		
Thucydides			III.4 The plague		VII.1 The plague	
Asclepiades	II.4 *Anarmoi*					
Epicurus	II.4 Atoms					
Diocles of Carystus			VI.4 Sweating			
Herophilus					II.2 Optic nerve	

need to give primary attention to matters themselves rather than to terminology, something which is stressed in the translated treatises, is revealed in the following statement from the *De anatomicis administrationibus*: 'But if you are at least persuaded by Plato and myself you will always think little of names, whereas you will be attentive primarily and particularly to the knowledge of matters . . .'[6]

Aristotle, on the other hand, is not given the unqualified reverence which Plato receives. For example, De Lacy has drawn attention to two passages which clearly display a less than reverent attitude towards him on Galen's part. In the first, Aristotle is linked with Praxagoras as a target of criticism for their jointly held and major misconception of the function of the heart – 'they were either blind themselves or were addressing a blind audience'. In the second, where his views are criticized in *De semine*, he is twice addressed patronizingly as 'dearest Aristotle'.[7] Nevertheless, it could be argued that an analysis of Galen's works would support the view that Aristotle's influence was the most significant, at least in matters other than the purely medical.

Thus, in Galen's teleological views, which especially inform one of his major works, *De usu partium*, it is Aristotle's immanent teleology rather than the Platonic 'Demiurge' which is most discernible. In his methodology, Galen is clearly and profoundly influenced by Aristotle, particularly by the works of the *Organon*. In his conception of the structure of the body he is, as has been noted, a staunch supporter of the theory of elements and qualities which, whilst not attributable to Aristotle, was held and developed by him. Further, in his formulations of structural levels, which are of considerable importance to the classifications advanced in the books of the present study, Galen follows Aristotelian concepts, especially the idea of *homoiomeres*. In his consideration of causation, he is also clearly influenced by Aristotle, both in the assumption of the validity of the search for causal explanations and in the specific ideas. This is an issue which merits, and will receive, further and more detailed discussion. In his attention to taxonomy, Galen is obviously following Aristotelian principles. Moreover, he was unquestionably influenced by the psychology of *De anima*, as indeed were almost all who came after Aristotle and grappled with the same subject matter. Finally, the empirical component of his studies and

[6] *De anatomicis administrationibus* II.581K. According to De Lacy the reference to Plato is either '. . . *Statesman* 261E' or '. . . the conclusion of the *Cratylus*'. Singer, C. (1956), in his translation of *De anatomicis administrationibus*, also mentions *Republic* 533e and *Sophist* 244.

[7] See De Lacy (1973), p. 33. The two passages referred to are to be found in *De placitis Hippocratis et Platonis* V.187–8K and *De semine* IV.530, 553K respectively. As regards the latter, De Lacy remarks that the phrase 'dearest Aristotle' '. . . expresses a certain exasperation at the obtuseness of the person criticised'.

the use of observation of biological phenomena as the basis for theoretical formulation reveals the Aristotelian imprint.

A further predecessor who should be mentioned, both for himself and as an important representative of the Stoic school, is Chrysippus. Galen's attitude to him is somewhat ambivalent. For example, at one point in *De methodo medendi* Chrysippus is linked with Hippocrates, Plato and Aristotle in espousing what Galen himself accepts as the correct explanation of matter:

> For Hippocrates first put forward the hot, cold, dry and moist, whilst Aristotle demonstrated [these] after him. And the followers of Chrysippus took these up as already given and did not dispute [them], but said that all things are mixed from these, and that these affect and act on each other and that nature is systematic. They accept all the other doctrines of Hippocrates about nature, apart from there being some small difference between them and Aristotle.[8]

By contrast, in several passages in *De placitis Hippocratis et Platonis*, Chrysippus is roundly criticized.[9]

In summary, there are two areas where Galen is clearly in accord with Stoic thinking: (i) in his concept of the structure of matter in general (i.e. a continuum concept) and of the body in particular; and (ii) in his approach to causation and causal explanation as will be discussed further in chapter I.6. More uncertain is the degree of accord on the nature and role of *pneuma*. Whilst both Galen and the Stoics attribute considerable importance to *pneuma* in their formulations of physiology and pathology, Singer remarks that Galen '. . . is at pains to distance [his theory of *pneuma*] from that of the Stoics, who endowed *pneuma* with religious, arguably pantheistic, significance'.[10] Issues on which there is frank opposition include the structure and workings of the soul, and the importance of the heart in development and in neurological function. As these matters are only of peripheral relevance to the present subject, they are not considered further here.

Finally with regard to philosophers, Galen's position is quite clear in the case of Epicurus, taken by him as the philosophical representative of atomist theories which he unequivocally opposes. Important predecessors, such as Democritus and Leucippus, and successors, such as Lucretius, are considered only briefly or not at all. On the other hand, Asclepiades, the major member of the medical wing of atomism, is frequently referred to and mostly unfavourably (see below).

[8] *De methodo medendi* X.16K. [9] See De Lacy (1973), p. 33.
[10] Singer, P. (1997), introduction, p. xii.

In terms of doctors, Galen's greatest debt, explicitly and repeatedly acknowledged, was to Hippocrates, at least to the Hippocrates whom Galen takes to be the author of certain of the works he most admires in the Hippocratic Corpus. Thus, Lloyd speaks of: '. . . the importance of the almost unbounded admiration he [Galen] always expressed, throughout his life, for Hippocrates, his "guide in all that is good"'.[11]

Three principles of primary importance to Galen were taken from Hippocrates. First, there was the humoral theory of the composition of the body, as expressed in the latter's *Nature of Man*, with its stated opposition to the existing claims of a single basic substance, characteristic of much of Presocratic philosophy. Second, there was the view, whether implicit or explicit, that each individual disease had a causal explanation which should be sought and, if identified, would be of relevance to treatment. Third, and related to the second, there was the allopathic principle underlying treatment. Of more general importance were Hippocrates' perceived emphasis on ethics and his methodology, both of which prefigure Galen's own belief in the essential nexus between medicine and philosophy. Again to quote Lloyd, Hippocrates '. . . could be used as a perfect demonstration of how, in methodology, in natural philosophy, even in moral philosophy, the best doctor is also a philosopher'.[12] It could be said, then, that properly understood and interpreted – that is, according to Galen himself – Hippocrates provided the foundation stone for all that Galen embraced in the theory and practice of medicine. In areas of doubt, any uncertainties of authorship within the Corpus could be used to Galen's advantage in dismissing aspects with which he disagreed.

Other early medical writers whose works are no longer extant but who are worthy of mention in the present context are as follows: Alcmaeon of Croton, at least on the flimsy doxographical evidence available, was the originator of the balance/imbalance concept of health and disease, so fundamental in the present treatises. Philistion of Locri, on the basis of the *Anonymus londinensis*, may be said to have held similar views to Galen on disease causation. Diocles of Carystus appears to have articulated views on the four elements or qualities, on *pneuma* and innate heat, and on digestion, which are similar to Galen's, and so may have influenced him. Finally, Praxagoras, while he attracted Galen's criticism for his cardiocentric view of the *hegemonikon* and his idea that *pneuma* was conveyed by the arteries, is quoted favourably in the present treatises in relation to his view of the expanded number of humours.

[11] Lloyd (1993), p. 125. [12] Lloyd (1993), p. 140.

Galen was obviously indebted to the two great Alexandrian doctors of the third century BC, Herophilus and Erasistratus, not only for their actual anatomical discoveries, but also for the importance which they gave to anatomy in the teaching and practice of medicine. In other aspects, such as basic physiology and pathology as well as causation, he seems to be close to what we know of Herophilus, but quite at odds with some of the ideas of Erasistratus. In particular, this relates to basic structure (i.e. particles versus continuum) and to causation, as will be considered in chapter I.6.

Lastly, there is Asclepiades, who has been described by Frede as 'a pivotal figure' in the Rationalist/Empiricist debate[13] but is undoubtedly also pivotal in a wider sense. Asclepiades has a particular relevance for Galen, and a particular relevance also for the books under consideration in which his theories are given significant recognition in Galen's discussion of disease classification and causation. In essence, Asclepiades represented the culminating articulation of atomistic theories as applied to medicine up to the first century BC. Atomism was a theory that could trace its heritage back through the somewhat disparate strands of Strato of Lampsacus, Heraclides of Pontus and Epicurus to its origin with Democritus. As with a number of the significant figures already mentioned, his writings have not been preserved, although the recent collection by Vallance provides a detailed account of his views and of his intellectual progenitors.[14] Unfortunately, much of the information derives from Galen himself who, being implacably opposed to Asclepiades' key concepts, cannot be taken as an impartial source. Galen's inclusion of Asclepiadian theories and their Methodist developments in the treatises dealt with here is, however, strikingly free of polemic, as noted earlier.

Asclepiades based his physiology and pathology on the concept of fragile corpuscles (*anarmoi onkoi*) which travelled through ducts not anatomically definable (*poroi*) distributed throughout the body. Diseases occurred when this process was interfered with, in particular when there was impaction (*emphraxis*), as will be discussed further in chapter I.6. Considerable uncertainty remains about the precise nature of the structures involved, although there is agreement on the broad outlines of the theory, which formed the basis for the principles of the Methodic sect (see below). Therefore, although he was clearly a supporter of the principle of causal explanation, Asclepiades' structural concepts were so at odds with those of Galen that the nature of the causes invoked was inevitably different. Asclepiades also

[13] See Walzer and Frede (1985), introduction, p. xxix. [14] Vallance (1990).

differed importantly from Galen in his rejection of teleology and in his support for Erasistratus' idea that the arteries contained *pneuma*.

In considering very briefly those philosophers and doctors who were Galen's contemporaries or near-contemporaries, the 'schools' of the period provide a convenient framework, particularly in relation to causation. Indeed, Hankinson writes: '. . . it is not much of an exaggeration to say that the differences between the principal medical tendencies of the Roman Empire, Dogmatic (Rationalist), Empiricist and Methodist, are to be located precisely in their attitudes to cause and explanation'.[15] Galen himself was, and indeed still is, clearly identified as a Dogmatist, although he was aware of the pitfalls of the Dogmatic approach and of the failure of the Dogmatists themselves to fully understand or adhere to their own principles:

> On the other hand, for those who make reason [*logos*] the principle of discovery and order, who propose that this is the one road leading to the goal, there is the necessity to begin from something primary, agreed upon by all men, and in this way then proceed to the rest. They do not in fact do this, but rather the majority take up disputed starting points, not demonstrating them, and proceed to the rest in the same way, laying down the law rather than demonstrating.[16]

The criteria to be met for inclusion among the medical Dogmatists are possibly nowhere more clearly stated than by Celsus: 'Therefore there are those who, professing to a rational medicine, put forward these things as necessary: a knowledge of hidden causes involving diseases; then of evident [causes]; after these of natural actions and last of interior parts.'[17] On these grounds, Galen would certainly qualify as a fully-fledged Dogmatist. Specifically, on the issue of causation he is committed to the quest for 'hidden causes'. Furthermore, on classification, an exhaustive analysis of causes is itself the foundation for the construction of a classificatory system. There is, however, no doubt that Galen recognizes the importance of empirical knowledge, although he characterizes this as possibly 'unsystematic and irrational'.[18] He also recognizes the importance of 'evident causes'. These issues and related terminology are discussed at length in chapters I.4 and I.6.

Galen, then, was opposed in general terms to the Empirics. In characterizing the Empirical school, one may take Hankinson's observation: 'The most striking feature of the Empiricists' position, however, was their consistent refusal to let their theorising take them beyond the realm of immediate

[15] Hankinson (1995), p. 78. [16] *De methodo medendi* X.32K.
[17] Celsus, *De medicina* I, *Proemium* 13. [18] *De methodo medendi* X.32K.

experience and into the arcana of things by nature obscure . . .'[19] There is also this more complete description offered by Frede:

> What the Empiricists clearly wanted to reject were formal inferences, either deductive or inductive, in particular inferences by means of which people were supposed to get a grasp on the theoretical truths which underlie what they could observe, and more emphatically those inferences which were supposed to lead to theoretical truths concerning theoretical entities, like the atoms, which can only be grasped by reason.[20]

Certainly there is agreement on what the Empiricists took as the basis for practice: *peira*, *teresis*, *historia* and *metabasis*, terms which may be equated with direct experience, observation, historical information about the patient in question or other patients, and reasoning by analogy, respectively. On the specific issue of causation, as was recognized by Celsus, the Empiric accepts evident causes as relevant, but regards the search for hidden causes as fruitless and unnecessary.[21] Nonetheless, as alluded to above, Galen harboured an unquestionable sympathy for medical Empiricism, whilst the foundational methods of experience, observation, history and analogy have a continuing relevance to all medical practice.

By contrast, Methodism was relatively evanescent in both theory and practice and was the school to which Galen was implacably opposed. Based on the somewhat quirky development of atomism as applied to medicine, it was attributable to Asclepiades. To characterize Methodism briefly, in summary it relied on no authority (even the otherwise revered Hippocrates was an object of criticism), and was based on a theory which involved 'theoretical entities' and could be said to accept 'hidden causes'. The foundational theory was, however, in large part seen as irrelevant to practice. Medicine was reduced, in effect, to the simple recognition of phenomenologically evident bodily states which, in terms of abnormality, were limited to only two basic states, constriction and dilatation. A third, intermediary state was also accepted, this being a mixture of these two primary states. It was, however, further elaborated by a number of later doctors amongst whom Themison (first century BC) and Thessalus (first century AD) were prominent. In their hands it became a medical theory with far-reaching consequences for both diagnosis and treatment.

Methodism was, as Sextus Empiricus observed, more complete in its scepticism[22] or empiricism than medical Empiricism itself in that it did not depend on cumulative experience and so had no recourse to past history,

[19] Hankinson (1995), p. 78. [20] Walzer and Frede (1985), introduction, p. xxiii.
[21] Celsus, *De medicina* I, *Proemium* 27. [22] Sextus Empiricus, *Outlines of Pyrrhonism* I.241.

either of the particular patient or of others, no reliance on reasoning by analogy, and did not involve memory other than the recollection required to recognize the particular state. On the issue of causation it did not, despite its theoretical substructure, make use in any way of causal analysis. Also, as Celsus observed, 'the Methodic recognized no cause whatever, the knowledge of which has any bearing on treatment'.[23] It is of some interest to note that although Galen reserved some of his most virulent criticism for the Methodist, Thessalus, this attitude did not extend to another prominent Methodist, Galen's near-contemporary, Soranus.

Less is known about the Pneumatic school than about the others. There is agreement that its founder was Athenaeus of Attaleia, although his dates are unclear and no writings survive, as is the case with other known members of the school, Archigenes of Apamea and Agathinus of Sparta.[24] Some writings do remain, of Aretaeus of Cappadocia, who was, in fact, a contemporary of Galen. In adding the role of *pneuma* to that of the four elements or qualities in their considerations of the genesis of health and disease, the Pneumatics display definite links to earlier philosophical thought, particularly to Diogenes of Apollonia and to Stoic physics, as described above. Galen himself incorporated *pneuma* into his physiological and pathological formulations and was, it might be said, sympathetic towards the Pneumatics as a group. Certainly, in terms of causation they might be seen as espousing the same basic principles, although differing in specifics, as would be expected. In classification, however, there would clearly be differences. The subjects of Galen's own relation to the Pneumatics, and the extent to which they were defined as a school, would undoubtedly bear further study.

To summarize, it may be said that Galen clearly identifies his allegiances. In medicine, his primary authority, revered almost beyond criticism, is Hippocrates. In philosophy, a similar position is held by Plato, although Aristotle is also accorded great respect and importance. In terms of basic concepts, he inherited and developed the physiological system based on the idea of the four elements (fire, air, water and earth) and their related four qualities (hot, cold, wet and dry).[25] Whilst this theory essentially originated with Empedocles, its physiological and medical implications were first substantially developed by Hippocrates. Conversely, Galen remained totally opposed to atomistic concepts, most notably associated with Democritus in philosophy and Asclepiades in medicine. Likewise, his pathology was based principally on ideas of imbalance of the four qualities and their

[23] Celsus, *De medicina* I, *Proemium* 54. [24] See Wellmann (1895) and Kudlien (1962).
[25] For discussion of the latter see particularly Lloyd (1964).

related four humours (yellow bile, blood, phlegm and black bile),[26] ideas dating back in broad outline to Alcmaeon, but again first clearly formulated by Hippocrates. In both physiology and pathology, however, the role of *pneuma* and concepts of *dunamis* ('capacity') and *energeia* ('function'), the former traceable to Diogenes of Apollonia and the latter particularly to Aristotle, are both of considerable importance.

In methodology generally, Galen's debt was to Plato and Aristotle, although here the latter must be recognized as more important than the former even if this greater debt is not explicitly acknowledged. As will be described later, in this area both Stoic and Sceptic influences can be discerned. In matters of practical anatomy his acknowledged debt is to the great Alexandrians of the third century BC, of whom Herophilus is clearly favoured, not so much for the nature of his anatomical work as for his avoidance of the unacceptable theorizing which Galen objects to in Erasistratus. On the question of schools, Galen is most directly linked with the Rationalists or Dogmatists, a position certainly defensible on the grounds of his avowed allegiances. Nonetheless, he is, perhaps, more accurately characterized as a small-e eclectic, a categorization entirely in keeping with the nature of his education and training in both philosophy and medicine.

Certainly, by the breadth of his learning and the corresponding scope of his writing, by his acceptance of various strands of thought, some traceable back six centuries, and by his aggressive eclecticism, it may be, as Manuli has suggested, that Galen alone did much to still controversy on the central issues debated by the schools.[27] To what extent our present viewpoint is clouded by the capricious preservation of one author's works rather than another's, and by ignorance of other significant social and intellectual forces then operative, is difficult now to judge at such a distant remove, and must remain an open question. The fact remains, however, that Galen was undoubtedly a major force in medical thinking in his own time and a dominant influence for many centuries after his death. In the following chapter I shall examine what is, if not the cornerstone, at least a substantial component of the theoretical foundation of his medical practice – that is, the interwoven subjects of definition, classification and causation in disease.

[26] For the interconnection see, for example, Nutton, in Conrad et al. (1995), p. 25.
[27] See Manuli (1993) for discussion of this point.