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0521809770 - Medicine before Science: The Business of Medicine from the Middle Ages to the Enlightenment

Roger French

Excerpt

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Introduction

This book presents an argument rather than a narrative survey. The premiss of the argument is that from the high Middle Ages onwards, physicians built up their trade into an elaborate professional structure, endowed it with an even more elaborate theory, and contrived to present it with great authority. Some physicians became rich, others famous and powerful, as teachers and practitioners. Great households retained physicians as part of the 'family' and towns sought out university-trained physicians for contract-based employment.¹

Many physicians were, then, *successful*. We have no way of measuring their clinical success, for that would be to ask modern questions and expect modern answers from inappropriate historical material. Moreover, our instinct is to believe that old medicine was less effective than our own, which is so conspicuously scientific. Indeed, from a modern viewpoint pre-scientific medicine can look ridiculous in its theory and bizarre and disgusting in its remedies. How, then, did physicians in the past meet the expectations of their society, and so succeed?²

The argument of this book is that they did so partly by helping to create those expectations, which were accordingly easier to satisfy. The fully trained university doctor had two main methods of cultivating his image as a capable medical man, his reason and his learning. These two characteristics will often be capitalised in this book to show that they are technical terms in a historical sense. The Learned and Rational Doctor was

¹ See for example Michael R. McVaugh, *Medicine before the Plague. Practitioners and their Patients in the Crown of Aragon 1285–1345*, Cambridge (Cambridge University Press), 1993; and Luis García-Ballester's introduction to Luis García-Ballester, Roger French, Jon Arrizabalaga and Andrew Cunningham, eds., *Practical Medicine from Salerno to the Black Death*, Cambridge (Cambridge University Press), 1994.

² As Nancy Siraisi observes, a doctor's 'success' in the Middle Ages consisted of prolixity of authorship, fame and senior teaching positions. Success in attracting students into the *studium* was a financial benefit to the town, and on this basis, for example, Taddeo Alderotti received privileges from the civic authorities in Bologna. See Siraisi's 'Medical scholasticism and the historian' and 'Two models of medical culture, Pietro d'Abano and Taddeo Alderotti', in Nancy Siraisi, *Medicine and the Italian Universities 1250–1600*, Leiden (Brill), 2001, pp. 140–56 and 79–99, respectively.

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‘learned’ in a sense that we do not now recognise as valid in any medical or practical sense, for it was largely a question of acquiring the knowledge of the ancients. He was ‘rational’ not in a sense of reaching the truth, but in the simpler sense of using arguments, which were largely dialectical and philosophical, also of ancient origin and not necessarily valid to us.³

Whatever we think about the validity of these attributes of the university-trained physician, or of his clinical practice, we should note that it took about as long to train a doctor in the high Middle Ages as it does now. He therefore had a great deal of knowledge and many modes of handling it, which he could use in persuading an audience that he was an effective practitioner. He used it primarily in constructing a story about his kind of practitioner, a Good Story (also sometimes capitalised here) that he could tell his patients, his pupils, the powerful and the legislators about the effectiveness of his medicine and about his right to practise it.

We need not suppose that such a physician was always coldly cynical about telling the Story and developing his image. Professional attitudes – and medical ethics – tended to develop along lines that had the *effect* of benefiting the profession, but this was not always recognised by the individual: properly professional or ethical ways of behaving are rarely absorbed as part of a rationalist training.

Although not a narrative survey, this account of medicine before it became scientific is based on a chronology that runs from the high Middle Ages to the Enlightenment. There are a number of reasons that make this a self-contained story to tell. One of them is that although much of the medicine in this period was based on ancient doctrines, there is a much greater cultural link between us and the Middle Ages than between the Middle Ages and antiquity. Indeed, much of the development of medicine in the period was due to the slow and difficult business of recovering and trying to understand ancient medicine; while between us and the men who did this there was no cultural hiatus, no second ‘Dark Age’. This means that although a good deal is said here about ancient medicine, it is not as a background or early history of the topic, but as the material out of which later physicians constructed their own medicine. That is, the attempt has

³ It also needs to be said that ‘rational’ is not used here to mean the opposite of ‘superstitious’, for superstition is simply someone else’s belief. If that belief includes gods or demons that cause disease, then it is rational to do what is necessary to placate them. ‘Rational’ is also sometimes used to mean ‘natural’ (as with Greek ideas about the causation of disease) as opposed to ‘supernatural’ (as in Egypt). No such opposition is implied here. See James Longrigg, ‘Medicine in the classical world’, in Irvine Loudon, ed., *Western Medicine. An Illustrated History*, Oxford (Oxford University Press), 1997, pp. 25–39. See also Longrigg’s *Greek Rational Medicine. Philosophy and Medicine from Alcmaeon to the Alexandrians*, London (Routledge), 1993.

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been made to look at ancient medicine through the eyes of the medieval doctors, or at least to emphasise what they found important in it.

A word should be said too about the *terminus ad quem* of this account of medical history. Some historians would argue that 'science' began in the seventeenth century and others that it was a product of the nineteenth; the reasons for choosing the Enlightenment, a deliberately vague term, are given below. A related question asks when medicine itself became scientific. A possible, although rather extreme answer is 'not until the last years of the nineteenth century' when the science of bacteriology gave medicine a demonstrable power of curing certain infectious diseases. Certainly this power of medicine gave the doctor a new authority, and one that he used in examining the nature of the history of medicine: it was his subject, after all, he was the master of it, and it seemed natural that he should know best how it came to arrive at its present state. This has been the prevailing historiography in the history of medicine as a discipline until comparatively recently, and it is still present in a virulent form in the sub-discipline of retrospective diagnoses. This book is an attempt to abandon the present-centredness of much of medical history, which is why the story ends in the eighteenth century.

Indeed, it is equally arguable that some features of science were present in medical research in the eighteenth century. The medical experiment, recognised as part of the ancient medical tradition by anatomists in the sixteenth century, was central to the generation of new medical knowledge in the seventeenth century, and was adopted by the natural philosophers of the time.⁴ By the eighteenth century, systematic experimentation (largely on animals), statistical methods and clinical trials were recognised procedures for the validation of medical knowledge.

But a good story is defined not by its boundaries, but by its content. The story of this book is about the relationship of medicine to natural philosophy – *Aristotelian* natural philosophy. Aristotelian natural philosophy was known to and used extensively by Galen, the Greek physician to Marcus Aurelius and Commodus in Rome, and formed the basis of university natural philosophy from the early years of the thirteenth century in Oxford and from the middle of the century in Paris.⁵ It retained its

⁴ On the medical experiment see Roger French, *William Harvey's Natural Philosophy*, Cambridge (Cambridge University Press), 1994, esp. ch. 10.

⁵ The Parisian statutes can be found in H. Denifle and E. Chatelain, eds., *Chartularium Universitatis Parisiensis*, 4 vols., Paris, 1889–97. Student notes of natural philosophy lectures can be found in a number of manuscripts of the Aristotelian *corpus vetustius*, which were annotated in an English hand in Oxford. See especially London, British Library, MS Royal 12 G II.

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place as the university man's means of understanding the natural world until the seventeenth century in Protestant countries, and longer in some Catholic countries. The Learned and Rational Physician had based his Good Story almost wholly on traditional natural philosophy. Philosophy was the basis of the theory of medicine. It supplied the doctor with a series of unassailable axioms about how the natural world and the body worked. It offered a method of extending these principles down to the particulars of medicine and its practice. The logic employed in natural philosophy not only demonstrated the solidity of these principles but provided the doctor with a means of convincing other people that the philosophical doctor's philosophical medicine was the best possible. When and where traditional natural philosophy collapsed under the attack of the new philosophers the Learned and Rational Doctor was at a crisis.

The ways in which doctors reacted to this crisis combine to form the thread that links together the narratives of this book. It is a thread by which we may link the internal details of the physicians' scheme of things – the concern of traditional intellectual history – to the social uses (as well as therapeutic applications) of that knowledge. Historiographically, then, this is not an 'internal' history of medical 'ideas' nor can it claim to be an 'external' history of the profession; rather, it attempts to show that we can read the technical detail of medical literature and 'listen' for the effect that it would have had on the intended audience. However subtle the arguments of the rational doctor and however detailed his learning, we must not slip into the error of believing that both were sterile, for every word could have an effect on his listeners or readers, generally an effect that reflected well on the doctor.

Medical history has its traditional heroes, from Vesalius to Harvey and Boerhaave, and although these too are linked by the thread, it is not the intention here to retell well-known accounts of such men. There are other figures who perhaps better illustrate the theme of this book because they were less heroic and more ordinary or more typical of some group. In what follows we shall proceed partly by figures who are examples and we shall look at them in a little more detail than would be usual in a survey of this size.⁶ This approach means too that the *modus tractandi* here is not

⁶ This book is aimed at a readership of 'senior students' and is not therefore a narrow research monograph. I have, however, included a 'research' component in reading the texts of the men I have chosen as examples. Critics will doubtless point out that these are not important examples. But 'important' here is an attribute of traditional evolutionary history, and carries little meaning in the kind of story I am trying to tell.

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a magisterial survey of the secondary literature, most of which has been concerned with medical progress. Such men as are used for examples here have often been ignored because of a perceived lack of a 'contribution' to the development of medicine, and tend nowadays to be left to the obscurity of their Latin treatises.

Indeed, an alternative way of presenting the argument of this book is that it deals with the *Latin tradition* of European medicine. Everyone agreed that the Father of Medicine was the Greek Hippocrates, but Greek was a language essentially lost to Western Europe after the fall of Rome. A Latin tradition might have started with the Greek Galen, who taught in imperial Rome and became physician to the emperor at a time when educated Romans increasingly learned Greek; or a few years earlier with Celsus, who wrote in a widely admired style of Latin. But the bulk of Galen's work was not recovered until the high Middle Ages and Celsus was unknown until the early fifteenth century. It was from a Latin translation of Hippocrates and Galen that the Western doctors put together their medical tradition and it was the Latin tradition that came to an end in the Enlightenment with the collapse of traditional natural philosophy and Galenic theory and the replacement of Latin as a medium of education with the vernaculars.

Looked at in this way continuities are as important as novelties. When publishers of the early sixteenth century printed huge commentaries that had been written two centuries before, they were making a very sizeable investment which could be recouped only in the market which fed the enduring programme of the schools. The same can be said of Galenic texts published a century after Harvey had convinced some doctors that Galenic theory was untenable. Even the editions of Hippocrates and Galen by Littré and Kühn in the nineteenth century indicate that classical learning was still a worthwhile attribute for the gentlemanly (and pre-germ-theory) doctor. The forces of conservatism were considerable and varied from place to place and in different groups of doctors.

It is a rash historian who attempts to cover as wide a chronological period as this, where many specialists have spent careers on parts of it. Inevitably this book contains shortcomings. As Goldsmith says in introducing *The Vicar of Wakefield*, 'There are an hundred faults in this thing, and an hundred things might be said to prove them beauties'. But he proceeds robustly, 'But it is needless'. To adapt his defence, a book may claim to tell an interesting if imperfect story, 'or it may be very dull without a single absurdity'. Goldsmith is not wholly without relevance here, for he had

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been, among many other things, a student at the famous medical school at Edinburgh, with which this book effectively ends. It was a school on which he bestowed no lustre whatever; and of his brief excursion into medical practice his biographers note only that he once prescribed a medicine of such horrific strength that the apothecary refused to make it up. Here is an allegory of the lost authority of the doctor.

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PART I

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CHAPTER I

Hippocrates and the philosophers

MEDICAL WISDOM

When the medieval doctor looked into the past for the beginnings of his own profession, what he found was the figure of Hippocrates, the Father of Medicine in the medical tradition from the Middle Ages to the Enlightenment. Modern scholarship has not revealed much about the historical Hippocrates or which of the 'Hippocratic' works were written by him,¹ but the medieval doctor felt more secure in his knowledge. The Hippocratic works gave him a number of things. There was technical advice in a practical subject, which told him what to do and what to expect. For instance, the *corpus* includes works that explain how to reduce dislocations and how to bandage wounds.² The Hippocratic works were also valuable because they were Hippocratic, that is, ancient and authoritative in an age that revered antiquity. These first two chapters are not directly concerned with the first of these aspects of antiquity, the technical content of Greek medicine and philosophy. They are not, that is, a background to or an early history of a professional activity developed during the Middle Ages and beyond. Rather, they present an image of the medieval and later perception of antiquity, a construction (however false in our historical terms) within the

¹ Hippocrates was mentioned by Aristotle and Plato who says (*Protagoras* 311b) that he taught medicine for a fee. In the *Phaedrus* (270a) the Platonic Socrates argues that rhetoric is like medicine, for they define the nature of the soul and the body respectively; Hippocrates 'the Asclepiad' is credited with the declaration that the body can be understood only as a whole. Biographies of Hippocrates were written by Soranus and Suidas. Tradition has it that he was born in 460 BC. Most of the works attributed to Hippocrates were written between 430 and 330 BC, and some later. See G. E. R. Lloyd, ed., *Hippocratic Writings*, Harmondsworth (Pelican Classics), 1978, p. 9 and W. H. S. Jones' general introduction in vol. 1 of the Loeb Library series (see note 2 below). For a recent account of the historical Hippocrates and the *corpus*, see Jacques Jouanna, *Hippocrates*, trans. M. B. DeBevoise, Baltimore (The Johns Hopkins University Press), 1999 (first published as *Hippocrate* in 1992).

² The Greek text of the Hippocratic works, with an English translation by W. H. S. Jones and E. T. Withington, may be found conveniently in the Loeb Library series: *Hippocrates* (vols. I–IV), London (Heinemann) and Cambridge, Mass. (Harvard University Press), 1962–8.

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Latin tradition and on which the later Western doctors based their actions. It is not a story of beginnings but of resources.

What the medieval doctor found in Hippocrates was primarily medical *wisdom*. This was the first kind of medical learning used by the Rational and Learned Doctor in the West; we shall meet the other forms below. It went hand in hand with a useful knowledge of what natural things were good for this or that disease, or part of the body. Hippocratic medical wisdom was found primarily in the text called the *Aphorisms*. This had probably continued in circulation during the earlier Middle Ages, and was certainly translated into Latin as the Eastern Empire tried to regain control of Italy.³

The medical wisdom of the *Aphorisms* is of a particular kind. It is imparted with great confidence and authority and appears to be the distillation of long experience by a retentive and perceptive mind. Indeed, the first aphorism of them all declares that the art of medicine requires much time to acquire and that, in comparison, life is short. It was generally agreed later on in the West that such had been the clarity of Hippocrates' mind that he had achieved this medical wisdom without the aid of other arts such as dialectic and philosophy, which had not then been invented and which later came to be such a prerequisite of learning medicine. In our terms this air of original authority of the Hippocratic writings may well be because they include some of the earliest written medical material.⁴ No doubt they reflect an earlier oral tradition, but there were no earlier books to be used as an authority or as a basis of discussion, which became important features of the later Western tradition. Possibly the Hippocratic *corpus* is a collection of early Greek medical writings made and named by a librarian, possibly in Alexandria; possibly the collection is itself the remains of a medical library.⁵ At all events, literate doctors from the middle of the fifth century were discussing the nature of medicine and using rhetoric to persuade their readers of the superiority of their own medicine in a competitive situation. Public lectures could also be used,⁶ but 'it is clear that they felt that the

³ See A. Beccaria, *I Codici di Medicina del Periodo Presalernitano*, Rome (Storia e Letteratura), 1956, esp. p. 6.

⁴ On literacy, see I. M. Lonie, 'Literacy and the development of Hippocratic medicine', in *Formes de Pensée dans la Collection Hippocratique. Actes du IV^e Colloque International Hippocratique (Lausanne 21–26 Septembre 1981)*, ed. F. Lasserre and P. Mudry, Geneva (Librairie Droz), 1983, 145–61. The first prose book in medicine seems to date from the middle of the sixth century, and the doctors were the first to create a distinct body of technical literature.

⁵ As suggested by Jones in the Loeb Library series, vol. 1.

⁶ For example, the Hippocratic *Nature of Man* opens with a reference to public debates on medical topics, from which a victor emerged. The context is whether 'man' could be reduced to the few elements of the philosophers or the few humours of some physicians. (Loeb Library series, vol. 4.)

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II

written word offered the possibility of a wider audience, and an enhanced authority'.⁷

Medical aphorisms, as wisdom, share features with other forms of expression. Like proverbs and the words of oracles, they speak with their own authority without supporting reasons and are open to the implication that this authority depends on either long experience or some kind of revealed knowledge. It can be argued that transmitting knowledge in this way is characteristic of pre-literate societies. Oral transmission in a complex business like farming has to be precise and not subject to accumulated errors. *Structured* oral expression helps here: the verse of Homer was famously committed to memory, and terse and expressive proverbs and aphorisms are memorable and useful. Pliny in imperial Rome reports some agricultural aphorisms of this kind. One of them was to have pruned the vines before the first cuckoo is heard (leave it too late and the vines bleed alarmingly. Pliny says that the farmer who *did* leave it too late might be embarrassed by his neighbours making jeering cuckoo noises at him).⁸ Proverbs also often have a rhymed structure to give them memorability. 'Sell in May and go away' used to be a stock-market proverb reminding the broker of the slack summer season. 'Oak before ash and we'll have a splash; ash before oak and we'll have a soak' is a rustic proverb of prediction based on the bursting of the buds. (It is also an English joke, because the rain will come anyway.)

PREDICTION

Thus an important feature of proverbs, aphorisms and oracles is that many of them are predictive. 'When sleep puts an end to delirium, it is a good sign' is a predictive aphorism. The third aphorism of the collection is both paradoxical and predictive when it says (at first sight) that good health in athletes is dangerous because it can only change for the worse. In medical terms prediction was very important. The doctor gained a good reputation by being able to predict the outcome of a case, and he avoided a bad one by refusing to take on a case where the patient was clearly going to die. The Hippocratic *corpus* contains a text devoted to medical prediction, *Prognosis*. The Greek author was quite explicit about the benefits to one's reputation from correct prognosis, but the medieval version read by aspiring doctors down to the sixteenth century was much more so. It opens directly by

⁷ See John Vallance, 'Doctors in the library: the strange tale of Apollonius the bookworm and other stories', in Roy MacLeod, ed., *The Library of Alexandria. Centre of Learning in the Ancient World*, London and New York (I. B. Tauris), 2000, pp. 95–113, at p. 99.

⁸ *Historia Naturalis* XVIII. 66.