

## Introduction

This volume, written by members of the Wellcome Institute for the History of Medicine, is designed to cover the history of Western medicine from Classical Antiquity to 1800. As one guiding thread, it takes, as its title suggests, a system of medical ideas that, in large part, went back to the Greeks of the fifth century BC, and which, throughout the period covered by this volume, played a major role in the understanding and treatment of health and disease. Indeed even its opponents, whether in Europe or America, at times took their cue from neglected parts of the same tradition, or strove to furnish alternative systems of explanation or therapy that would perform the same function as those they rejected. By the nineteenth century, however, this tradition no longer carried the same force or occupied so central a position within medicine.

The demise of this tradition calls into question the role of modern medicine in the interpretation of the medicine of the past. Whether one is dealing with explanations of disease, the understanding of the body, medical institutions, therapies, or the expectations of patients and doctors, the differences between the medical world of the 1990s and that of the 1690s, to go no further back, are such that one could label the whole of the period covered by this book ancient history, remote in time and, still more, in feel from the present. Even diseases themselves may have changed; contemporaries report occasional 'new' diseases, and both the clinical manifestations and the spread of diseases known from the evidence of written texts or of skeletons (palaeopathology) to have existed long ago may have altered substantially over time. Syphilis, tuberculosis, and smallpox are three examples of diseases with very different histories.

There is thus a temptation to dismiss as remote and irrelevant the medical worlds described in this volume, and to concentrate instead on the few gropings towards the truths of modern medical science at the expense of the mass of apparent ignorance or passivity towards disease and illness that surrounded them. But this is in effect to condemn ear-

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lier generations for not being modern, and to single out for praise ideas and discoveries that, in their own day, may not have attracted much attention or approbation. To credit the sixteenth-century physician Paracelsus with the origins of medicinal chemistry is to forget not only his predecessors in distillation, alchemy, and the therapeutic uses of mineral drugs, but also the world of elves and fairies, of astrology and mystical signs, of which his chemical drugs were but one part (pp. 311–17). Yet any attempt to rectify the balance by considering each Age on its own terms and within its own cultural context cannot escape the afterknowledge of modern medicine; we know, for instance, far more about gout or bubonic plague than eighteenth-century or medieval doctors, and our understanding of the anatomy of the body is far more detailed than that of the ancient Greeks. Such knowledge, however, should not be used to denigrate earlier beliefs, but to sharpen an appreciation of the difficulties faced by all those concerned with medicine in the past, and even to emphasise some of the uncertainties in the evidence as revealed in past records. But, inevitably, some of the themes and examples in this book are chosen to illustrate the present, how we have come to our present understanding of the body, in health and disease, and of the consequent responses of both the individual and society in general towards illness.

Yet, paradoxically, modern medicine continues to believe in and to shape the notion of tradition that forms the core of this book. Few writers of medical papers can resist an opening retrospect that sets their discovery in its historical context, few discussions of medical ethics avoid mention of the Hippocratic *Oath* (written *c.* 400 BC), and few physicians are unaware of such famous names as William Harvey (1578–1657) or Andreas Vesalius (1514–64), even if they have never read a page of their writings in their original Latin. The difference between these and similar citations made two hundred years ago lies in the degree of authority conveyed by these names. To a modern physician they are distinguished precursors; to one of 1790 they also imparted sound knowledge and useful practical information. There was then less of the barrier between past and present. An early nineteenth-century physician, writing on fever, could include texts and information taken from the Greeks, the Romans, and his own contemporaries, and argue with a long-dead professor as if he were alive. Such a familiarity with, not to say occasional reverence for, the past is rare today. It has been replaced by a series of historical icons – images that are meant to evoke a great

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and glorious past that the present will, it is hoped, be led to emulate. The founders of hospitals, the leading professors of medical schools, the discoverers of syndromes or anatomical structures, and the eradicators of disease take on a new status, a status not always deserved or borne out by the historical record.

There is, then, still a tradition to which appeal is made. It is flexible in what it contains, and in what is emphasised. An Englishman may choose Harvey, a German Paracelsus; French historians of medicine focus on the surgical innovations of Ambroise Paré (1510–90), the Italians on Renaissance Padua, the Dutch on Boerhaave (1668–1738) and his Leiden pupils. The perspective from Spain or Eastern Europe is different yet again. But there is equally a sense of the past, and of certain names, as forming the present of medicine, of a tradition that serves as a backbone to medical discovery and, still more, to medical practice. In this volume such a tradition links the eighteenth century with the Renaissance, the Middle Ages, and with Classical Antiquity, and provides both continuity and a means to distinguish between practitioners. The orthodox were those who were familiar with this tradition, which might be called 'formal' or 'regular' medicine, and the unorthodox were those who flouted or disregarded it.

Where and how this tradition began is disputed. Certainly an important role was played in all this by a Romanised Greek, Galen of Pergamum (129–c. 200/216), but even before his time several Greek writers had been singled out for particular reverence and their opinions preserved for posterity, most notably Hippocrates of Cos (traditionally c. 450–370 BC). It was a tradition bounded in time and space, expanding from the Aegean basin to the rest of the Mediterranean region, to Europe, and then to European settlements overseas. It excluded, as this book will do, the medical theories of ancient Egypt and Babylonia, and likewise of India, China, America, and the other civilisations with whom the Europeans later came into contact. The inheritors of the Greek tradition noted the drugs, and occasionally the medical techniques, of non-Europeans, but they largely consigned their theories to the realms of superstition and irrationality. However, the absence from this book of any discussion of these non-European theories signifies merely that they contributed little to the main European tradition of medicine, and is not a judgment on their efficacy, rationality, or historical importance – not least because modern medical anthropologists have demonstrated that many medical procedures, Western and non-

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Western, ancient and modern, are determined as much by the preferences and prejudices of a group or society, its general culture, as by any objective criterion of effectiveness.

Particularly problematic in this regard is the question of medicine in the Islamic world. Seen from a purely Western perspective, the writers and translators of medicine who flourished in the Middle East, North Africa, and Spain between AD 800 and 1200 form one stage in the transmission of Classical medical ideas to Europe. Their role is that of conduits and system-makers rather than independent or creative thinkers, and as such they have a place in the Western tradition of medicine. But to restrict a consideration of medicine in these regions and these centuries purely to this transmission process is to miss much, not least any originality and the variety of ways in which the Classical tradition interacted with a variety of other traditions and beliefs. Besides, the medical institutions of the Islamic world, larger and more sophisticated than anything at the time in Western Europe, are also worthy of attention, and did not come to an end with the Crusades of the twelfth or the Mongol invasions of the thirteenth centuries. Hence, although the Classical tradition of medicine remains the main focus of Chapter 4, on medicine in the Islamic world, and relatively little space is given to the other medical theories and practices that existed there, there is no intention of implying that this is all that is worth knowing about medicine in the Islamic world, or that the perspective offered is the only one available.

Nor do the authors of this volume wish to confine the Western medical tradition to a series of 'great names' or, as the title might suggest, to a tradition of medical ideas alone. That would be to fly in the face of much recent scholarship, and our own researches. It is now clear that this tradition, and those who believed exclusively in it, constituted only the tip of a vast pyramid of healers and healing practices (and, until the establishment or acceptance of a tradition, any exposition of medical history in terms of an opposition between one group of healers and another on the basis of this tradition would be anachronistic). Far from being a rigid inheritance that passed from one distinguished medical man to another, European medicine in the pre-modern age demonstrates a remarkable flexibility and variety. The medical market-place had many stalls and many stall-holders, and patients, as well as their physicians, could choose what to buy. One of the aims of this book is to bring this variety to general notice, almost for the first time, and, in a

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sense, to subvert the tradition announced in its title by placing it within its social, epidemiological, and historical context. What might appear stable or uniform is greatly qualified by the society in which medicine was practised. Institutions and wider cultural beliefs, as well as medical theories, help determine the relationship between society, disease, and its healers.

Just as the social context of medicine changes over time, so too the vocabulary of healing also shifts, and words take on different connotations. The notion of healing according to nature might constitute a guide to medical intervention, or, in certain periods, be understood as an injunction to avoid it. 'Science', which meant merely 'learned knowledge' in the Middle Ages, only gradually took on its modern resonances. Nonetheless, medical writers, from the Greeks onwards, frequently explained the activities of the body by means of ideas and analogies that encompassed the created world in general and were not confined to medicine, and modern scholars have often thought of them as scientific. The 'scientific revolution' of the seventeenth century thus saw an alteration in these broader explanations for the workings of the universe (pp. 340–59), with attendant consequences for the medicine for which they provided an intellectual context.

This was, on the whole, a literate medicine, one preserved in writing (of whatever level of sophistication, from a farmer's charm to a professor's lectures). We have thus little direct access to the world of the illiterate, which meant most of the population, in both town and countryside. Nor until the fifteenth century, and arguably much later, do we have statistics that enable us to quantify the data on population and disease with the degree of accuracy possible for the nineteenth and twentieth centuries. Estimates of population and similar demographic findings are thus largely qualitative, impressions by contemporary authors or later historians, not exact numbers. The evidence for disease as revealed by archaeology is also patchy in its coverage, and far from easy to interpret. Nonetheless, as modern demographers have shown, these types of evidence, taken together and explicated with care, can supplement the literary record and provide a fuller and richer context for the understanding of health and disease within society.

The vagaries of survival of the written record inevitably mean large gaps in our understanding of the medical history of the past, and render open to criticism almost any interpretation of it. Nonetheless, within the general framework of the Western medical tradition, the

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authors of this book have endeavoured to reveal the rich variety of the past, and to point out the contrasts, even among writers (and sufferers) who shared many of the same ideas and prejudices. The medical world of pre-modern Europe was no monolithic structure, nor was it the haunt of superstition, ignorance, and bigotry occasionally depicted by those who have not studied it. As this volume aims to show, the struggle against disease and illness has called for resourcefulness, intelligence, and even learning at all periods of history, and one may, on reading this volume, be struck more by the ways in which healers and patients alike coped in an age without modern hi-tech aids than by any obstinate adherence to age-old doctrines. If that is so, then the authors will have succeeded in demonstrating that one of the strengths of the Western medical tradition has been its flexibility both in its response to disease and in its capacity to adapt and to incorporate new discoveries and new ideas.

### *Note on names, text and illustrations*

Names of Greek authors are given in their more familiar Latin or English form or spelling, e.g. Hippocrates, not Hippokrates; Galen, not Galenos. We have not sought to impose consistency on the names of medieval and renaissance authors; generally we have preferred the vernacular or the English to the Latin, e.g. Mondino, not Mundinus, Peter of Spain, not Petrus Hispanus, da Monte, not Montanus. In other instances, e.g. Albertus Magnus, Vesalius, we have retained the more familiar Latin form. Arabic and Syriac authors are usually referred to in Chapter 4 by their vernacular form; in Chapter 5 by their medieval Latin, e.g. Avicenna, not Ibn Sina.

The use of man throughout this text has been used purely in its historical sense.

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## Chronological table for chapters 1–3

The dates of birth and death of most individuals in this period cannot be determined for certain. Unless stated, the date in the left hand column refers to the period at which he was known to be active.

Year	Medical and scientific writers	Year	Contemporary events
(BC)		(BC)	
		753	Foundation of Rome
		c. 700	Homer
585	Thales, first Presocratic philosopher	c. 600	Rise of Athens to prominence
480	Parmenides of Elea	490	Battle of Marathon
		478	Formation of Delian League, later Athenian Empire
470	Alcmaeon of Croton		
460	Empedocles of Acragas		
		431	Peloponnesian War begins
(428–347)	Plato	430–427	Plague of Athens
420 <sup>1</sup>	Hippocrates		
420	Democritus		
		404	Defeat of Athens
		399	Death of Socrates
385	Philistion of Locri		
		360	Roman expansion in Italy begins
		336	Death of Philip II of Macedon

<sup>1</sup> The historical Hippocrates was a contemporary of Socrates. The Hippocratic Corpus was largely written during the period 420–350 bc; what, if anything, Hippocrates himself wrote of it is hotly disputed.

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Year	Medical and scientific writers	Year	Contemporary events
(384–322)	Aristotle of Stagira		
330	Diocles of Carystos	323	Death of Alexander the Great
320	Praxagoras of Cos	323–282	Ptolemy I, ruler of Egypt (341–270)
		300	Alexandrian Museum and Library founded
280	Herophilus of Chalcedon		
280	Erasistratus of Ceos		
219	Archagathus in Rome		
(234–149)	Cato	212	Roman capture of Syracuse
		168	Roman conquest of Macedonia
		146	Rome destroys Carthage and Corinth
		133	Kingdom of Pergamum given to Rome
		106–43	Cicero
95	Asclepiades of Bithynia		
80	Heraclides of Tarentum		
80	Apollonius of Citium		
		49–31	Roman civil wars
		31	Battle of Actium
		31 BC to AD 14	Augustus emperor
		30	Death of Cleopatra
(AD)		(AD)	
		4 BC to AD 65	Seneca
(23–79)	Pliny		
40	Celsus		
48	Scribonius Largus		
60	Thessalus of Tralles		
60	Pedanius Dioscorides		
		69–79	Vespasian emperor
		98–117	Trajan emperor
100	Rufus of Ephesus		
100	Soranus of Ephesus		
120	Marinus, anatomist		
(129–200 \216)	Galen		



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Year	Medical and scientific writers	Year	Contemporary events
140	Aretaeus of Cappadocia	140	Asclepion of Pergamum rebuilt
		161–180	Marcus Aurelius emperor
		165–169	Antonine Plague
		193–211	Septimius Severus emperor
		235–284	Roman civil wars
		307–337	Constantine I emperor
		313	legalising of Christianity
		330	foundation of Constantinople as E. capital
(325–400)	Oribasius	350	first hospitals in E.
		360–363	Julian emperor
370	Magnus of Nisibis	364	Roman Empire divided
		330–379	Basil of Caesarea
380	Marcellus of Bordeaux		
400	Caelius Aurelianus	476	deposition of Romulus Augustulus, last Western Roman emperor
		493–526	Theoderic ruler of Italy
		527–565	Justinian emperor
530	Aëtius of Amida	541–544	Plague of Justinian
		542	Caesarius bishop of Arles died
570	Alexander of Tralles		
600	Ravenna Commentators		
630	Paul of Aegina		
d. 640	Isidore of Seville	642/646	Arab capture of Alexandria
		672–735	The Venerable Bede
		800	Charlemagne crowned Holy Roman Emperor
900	<i>Leechbook</i> of Bald	871–899	Alfred the Great, king of Wessex
		1066	Norman Conquest of England

## 1 Medicine in the Greek world, 800–50 BC

VIVIAN NUTTON

### *Introduction*

To trace the Western tradition of medicine back to the ancient Greeks is a simple task. Generations of doctors and surgeons have proclaimed their intellectual descent from Hippocrates of Cos and their adherence to a practice of medicine based on ethical, rational, and independent judgment, sound experience, and fine learning. Superstition here has no place; popular fancy and religious dogmatism alike are excluded. Medicine, like philosophy and drama, is part of the Greek miracle.

Such an account, which minimises any influence from the neighbouring cultures of the Near East, might appear unduly Hellenocentric, especially in the light of our present fragmentary state of knowledge of Near-Eastern and Early Greek medicine. The sophisticated medical culture of Egypt, for example, had long been known to the Greeks for its capable practitioners and its drugs, while many therapies and practices in Babylonia – notably prognostication, exorcism, and an emphasis on bodily fluids – have parallels in the Hippocratic Corpus. Nonetheless, many features of Greek medicine cannot be easily found in Near-Eastern medicine, especially its willingness to argue and speculate, and the Greeks themselves, who often acknowledged their debts to other earlier societies, are silent about any such influence on their medicine. If, as some modern writers have asserted, Greek medicine derives from these earlier and medically more advanced civilisations, any borrowing must have occurred so far back in the past that what was transferred was altered beyond easy recognition.

But to define the Greek medical tradition in terms of argument and speculation is also misleading, for it masks the plurality of Greek medicine, in which exorcists, religious healers, root-cutters, folk-healers, and *iatroi* ('healers')<sup>1</sup> co-existed in competition. Beliefs about dirt and pollu-

<sup>1</sup> In this chapter the translation 'healer' has been deliberately chosen instead of the more usual 'doctor' or 'physician' in order to avoid some of the modern connotations of these words. It does not imply that only healers offered physical healing or that they differed greatly from their Roman and later successors, who will be called, for convenience's sake, 'doctors'.