

# Introduction: Practical medicine from Salerno to the Black Death

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This book brings together the majority of the papers presented at a conference held in Barcelona in April 1989. The principal aim of the meeting was to assemble a group of scholars working in the field of medieval medicine in order to discuss to what extent medicine based on natural philosophy reached medieval medical practitioners, both physicians and surgeons. It was felt that it was important to restrict discussion to a significant geographical area and a well-defined period of time. The geographical area chosen was the Christian lands of the western Mediterranean, since this question could be most appropriately investigated there, and the period selected was from the twelfth century until the mid fourteenth century.

The reasons for these chronological limits are quite simple. We took as our starting point the fact that in the twelfth century a remarkable development took place in the southern part of Latin Christendom (the south of Italy, Sicily, and especially Salerno), an event that was to be of considerable influence in the intellectual history of European medicine. This was the basing of medical practice on the 'natural' part of philosophy, in particular on Aristotle's philosophy, which gave rise to a new form of medicine and a new way of perceiving medical training. Naturally, this did not happen by chance, and for this reason it is of great interest to enquire about its origins and why it developed in this particular area. The other event, providing our closing date, also came to be considered as remarkable in many ways, and this was the so-called 'Black Death' of 1348. It was remarkable not because it was the only such plague, nor even the first one, but because it marked a turning point even in the perceptions of the very people of the later Middle Ages themselves. Moreover, it coincided with the moment when the first process we are concerned with (the developing relationship between medicine and 'natural' philosophy) had reached a level of maturity in both intellectual and social terms. Its intellectual maturity was attained in the context of the introduction of medicine into universities in the course of the thirteenth century, while the extent of its social maturity can be demonstrated through the wide geographical

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distribution by this date of physicians or surgeons who based their practice on this new form of medical Galenism. It thus seemed reasonable to enquire to what extent, if any, there was a response from university medical circles and the new professionals in the field of medicine to the extraordinary phenomenon of the Black Death, and whether there was any communication over this issue between society and the medical world (with its Galenic paradigm). Such, then, were the chronological justifications.

We wanted to enquire, by means of new and directed research, whether the scholastic medicine that was being developed by scholars inside the universities was seen as merely an intellectual phenomenon, of concern only to a minority, or whether it was seen also as something that could be applied to the daily life of the new society that was being shaped in these southern parts of Latin Christendom at this period. We also wished to investigate whether university institutions were able to develop routes by which they might offer intellectual resources for the benefit of the health of citizens and cures for their illnesses, and not just for the minority of *beati possidentes* of the time (such as members of royal families, members of the civil and ecclesiastical nobility, and the new rich of the period). In short, what sort of contacts (if any) were established between the world of medicine based on the natural part of philosophy on the one hand, and society on the other – for such an interaction, if it in fact took place, must have worked in both directions.

Recent research has drawn attention to the existence of some intellectual products developed by the universities, and which were welcomed and applied by society in the area of medical practice. First there was the introduction and diffusion in the Latin West of Roman Law, which spread from northern Italy around the western Mediterranean from the late twelfth century onwards, and then at a faster rate in the following two centuries. The new physicians and surgeons learned how to make use of the new legal opportunities and of the conceptual world offered by the scholastic reception of Roman Law, for example, the concept of salarium, to conform with and adapt to the new social and economic order. In turn, town councils, institutions which were characteristic of the new social order in northern Italy in the early thirteenth century, were able to create a market for these new professionals, and did not hesitate to hire well-trained physicians to attend the medical needs of their citizenry, and not only the poorest members. Secondly, there was the promotion of the university model of the medical professional as the only acceptable one in the field of professional practice. This was well established by the first decade of the

<sup>&</sup>lt;sup>1</sup> See, Vivian Nutton, 'Continuity or rediscovery. The city physician in classical antiquity and mediaeval Italy', in A. W. Russell (ed.), The town and state physician in Europe from the Middle Ages to the Enlightenment (Wolfenbüttel, 1981), and bibliography therein. On the diffusion of Roman Law throughout the present-day French Midi and Catalonia, see André Gouron, La science du droit dans le Midi de la France au moyen age (London, Variorum Reprints, 1984).



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fourteenth century. For instance, a development of this kind took place in the first third of the fourteenth century in the lands of the Kingdom of Valencia (Crown of Aragon), which had been won for Christendom shortly before (1240–5).<sup>2</sup> The urban bourgeoisie played a leading role in both these kinds of development.

There has been considerable recent interest in the development of medieval medicine. One area of interest has been that of medical and dietetic prescriptions and therapeutic indications. The editors of a recent volume<sup>3</sup> on this pay special attention in their lengthy introduction to the relevant 'Fachliteratur', the professional technical medical literature. Although it had a complex relationship with medical texts in Latin and it deeply influenced the world of medical practice, this form of medical literature was often produced and used by anonymous practitioners mainly of non-academic origin, who did not spurn expressions derived from common speech. This extraordinarily popular kind of medical writing was professional in nature, full of technical expressions, and it made interesting contributions to lexical issues in various European languages. It allows us to draw closer to the real world of medical practice, of which it was a product and to which, at the same time, it served as a stimulus. It might almost be dubbed 'underground literature', and on occasions was indeed on the very frontier between academic knowledge and uneducated empiricism: for it drew upon the complex intellectual and technical medical world introduced into Europe by means of Latin translations of the writings of Greek or Arab doctors in the university sphere, while it simultaneously reflected local healing traditions. Both Anglo-Saxon<sup>4</sup> and German<sup>5</sup> scholarship has paid due attention to this field.

Moreover, medieval medicine is presently also being studied from the broad perspective of an intellectual and social 'renaissance' spanning the period from the twelfth to the sixteenth centuries. Some of us are also engaged in studying medical learning and its social penetration into the complex society of the fourteenth-century Crown of Aragon, where three cultures lived alongside one another (Jews, Muslims and Christians), with different models for understanding and practising the social task that

<sup>3</sup> Gerhard Baader and Gundolf Keil (eds.), 'Einleitung' to Medizin im mittelalterlichen Abendland (Darmstadt, 1982), pp. 1–44, especially from p. 25 onwards.

<sup>4</sup> Tony Hunt, Popular medicine in thirteenth century England. Introduction and texts (Cambridge,

<sup>6</sup> Michael R. McVaugh and Nancy Siraisi (eds.), Renaissance medical learning. Evolution of a tradition (Osiris, 2nd series, 6 (1990)), esp. 7–160.

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<sup>&</sup>lt;sup>2</sup> Luis García-Ballester, Michael R. McVaugh, and Augustin Rubio-Vela, Medical licensing and learning in fourteenth-century Valencia, Transactions of the American Philosophical Society, 79, part 6 (Philadelphia, 1989).

<sup>&</sup>lt;sup>5</sup> See, amongst others, Gundolf Keil, 'Das Arzneibuch Ortolfs von Baierland', Sudhoffs Archiv, 43 (1959), 20–60; Keil, 'Der Kodex Kohlhauer. Ein iatromathematisch-hauswirtschaftliches Arzneibuch aus dem mittelalterlichen Oberfranken', Sudhoffs Archiv, 64 (1980), 130–50; and also Gundolf Keil (ed.), Fachprosa-Studien (Berlin, 1981).



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medicine represented and still represents.<sup>7</sup> Recently too, the relationship between Arabic medicine and the Latin West has been reconsidered using a wider knowledge of the Arabic sources and greater familiarity with the Latin manuscripts.<sup>8</sup> Meanwhile, such a thorny subject as twelfth-century medicine in Salerno has recently been dealt with from a new standpoint.<sup>9</sup> All these explorations have strengthened our interest in enquiring what role medical learning had for the practice of physicians and surgeons over this reasonably short and coherent period.

## THE SOCIAL DIFFUSION OF UNIVERSITY MEDICINE

Studies of the historical sociology of theology have demonstrated how efficient later medieval preaching was in spreading from the university world of scholasticism specific theological ideas and a particular vision of the world and man. <sup>10</sup> Recent studies on the social expansion of knowledge in the Latin West in the thirteenth and fourteenth centuries <sup>11</sup> similarly reveal the diffusion of written knowledge within society through the network of grammar schools that spread across southern Europe in these centuries. <sup>12</sup>

The world of the liberal arts thus had a well-established and institutionalized channel of social diffusion as well as offering a wide and interesting range of job opportunities. This diffusion of the liberal arts was assisted by the so-called 'scientific encyclopedias' of Vincent of Beauvais, Bartholomaeus Anglicus, Thomas of Cantimpré, Albert the Great, and Juan Gil de Zamora, all dating from the thirteenth century.<sup>13</sup> (By the mid thirteenth

<sup>7</sup> See note 2 above.

<sup>8</sup> Danielle Jacquart and Françoise Micheau, La médecine arabe et l'occident médiéval (Paris, 1990).

Piero Morpurgo, Filosofia della natura nella schola salernitana del secolo XII (Bologna, 1990).
 See the lucid study of the role of preaching in thirteenth- and fourteenth-century Latin Europe, in Fernando Rodríguez Reboiras and Abraham Soria Flores (eds.), Raimundi Lulli Opera latina, Summa sermonum in civitate Maioricensi ... composita, vol. xv (Turnhout, 1987).

Peter Denley, 'Governments and schools in late medieval Italy', in T. Dean and C. Wickham, City and countryside in late medieval and Renaissance Italy (London and Ronceverte, 1990), pp. 93–107: 'The clear acceleration of state sponsorship of education in the fourteenth and fifteenth centuries is very much in tune with the findings of historians who are looking at state provision for medicine, public health and other aspects of civic government in the period' (p. 98). See also Nutton, 'Continuity or rediscovery', pp. 32–3.

Michael R. McVaugh and Luis García-Ballester, in their current work about practitioners and medical practice in the fourteenth-century Crown of Aragon, have found a lot of evidence in the Catalonian notarial records on the spread of grammar schools in small and large towns and the role in this played by university people trained in the faculty of arts; for an example, see the contracts between the municipal council of the town of Manresa (Catalonia) and Bonanatus, magister in artibus, 'magister scholarium gramatice' (Arxiu Historic Municipal, Manual de Consells, 1365–73, fols. 59, 18 June 1367 and 137r-v, 13 September 1369).

13 Recent research has stressed the role played by members of the mendicant orders educated in Paris in the diffusion of Avicenna's Canon: see Nancy Siraisi, 'The medical learning of



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century the liberal arts had largely been transformed into natural philosophy, with medical doctrine and material forming a substantial part of it). Scholastic society was thus capable of building routes of communication along which there flowed currents of ideas and values between university circles and the rest of society, and was also capable of creating suitable (or at least acceptable) conditions for a labour market attractive enough for university graduates.

It is reasonable to think that a similar phenomenon took place also in the medical world. Was scholastic medicine indeed perceived by lay society as a suitable technical means for the analysis of illness and capable of creating a medical system which could face up to the problems presented by illness, both in normal social conditions and in extraordinary situations? A full answer to all these questions that underlie the concept of this present book would require a reinterpretation of the medical manuscript sources, in the light of the new approaches of the social and intellectual history of medicine. However, the medical sources, of whatever nature, would not suffice for a complete answer, and it would be necessary to use both civil and ecclesiastical archive sources and other forms of lay or non-professional literary evidence (chronicles, accounts, sermons, all types of written material) to enable us to identify the daily activity of the new type of healer who emerged from the university lecture halls, and of those non-university healers who in one way or another were associated with the values of university medicine. Furthermore, if it were possible, our aim should be not only to detect their presence and activity, but also to assess the social impact of this new type of healer in terms of the perceptions of people of the time. A full account along these lines lies beyond the scope of this book, but it is in some way present within it.

Medical practice in this period was not limited to the activities of the professional, whether physician or surgeon, emerging from the academic world equipped with the intellectual tools provided by natural philosophy. In these years such medical practitioners were a novelty, and, of course, given their numbers, they were unable to provide medical attention to the whole population of Europe: we need only consider, on the basis of the limited data available, the ratio of inhabitants to university physicians even in the most privileged regions of southern Europe at this period. 14 So, what relationship existed between this academic form of medicine (that of the physicians and surgeons) and that of those other physicians, surgeons and

Albertus Magnus', in J. A. Weisheipl (ed.), Albertus Magnus and the sciences (Toronto, 1980), pp. 379-404, on pp. 392-3; D. Jacquart and C. Thomasset, 'Albert le Grand et les

problèmes de la sexualité', History and Philosophy of the Life Sciences, 3 (1981), 73–93.

14 M. R. McVaugh and L. García-Ballester, work in progress quoted in note 12. For Barcelona city and Valencia city (1325–34), the approximate ratio was between two and six physicians per 10,000 inhabitants. These figures have been established from the names of the physicians (phisici), which appear in the notarial records, and from the population as estimated by historians of demography (20,000-25,000 inhabitants).



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barbers without direct access to academic circles, but who fulfilled an important role in providing a socially respectable form of medicine (for they were certainly not considered to be 'quacks')? Practitioners belonging to this latter category lacked any form of access to the academic world either because of their religion (Jewish or Muslim) or their sex, even though they lived alongside the dominant Christian group, or belonged to it. Many of these practitioners, for socio-economic and cultural reasons, did not consider academic medicine to be something necessary for proper professional activity. Moreover, in their opinion, the route towards proper medical practice did not need to pass through a faculty of medicine, in spite of the fact that this professional model, generated by these same institutions, became the norm, at least in the minds of those who ruled society and dictated its laws, 15 and even though this scholastic model, and the new professional who emerged from it, continued to hold a certain fascination, at least for Jewish physicians. 16

### THE APPEARANCE OF A NETWORK OF MEDICAL CARE

Another feature of medicine in southern Europe in the twelfth to the fourteenth centuries was that the type of medical practitioner moulded in the Galenic paradigm and shaped by scholasticism often formed part of an incipient network of medical care and attention.<sup>17</sup> In effect the professional physician or surgeon placed himself at the service of a medical system – a true network of medical care – that took shape over this period, and spread rapidly all around the western Mediterranean. By means of this system, civil society (basically the city councils) endeavoured to provide medical care of its citizens through the hiring of technically trained medical professionals.<sup>18</sup> University physicians answered this demand, and one could suggest that they did so with a certain degree of prestige, judging by their generous salaries.<sup>19</sup> The existence of such a network, the extent and density of which can be measured in many regions of Italy from the mid thirteenth

Pearl Kibre, 'The faculty of medicine at Paris, charlatanism and unlicensed medical practices in the later Middle Ages', Bulletin of the History of Medicine, 27 (1953), 1-20, at 8-11.

<sup>&</sup>lt;sup>16</sup> Luis García-Ballester, Lola Ferre, and Eduard Feliu, 'Jewish appreciation of fourteenth-century scholastic medicine' in McVaugh and Siraisi (eds.), Renaissance medical learning, 85–117 (Osiris, 2nd series, 6 (1990), 85–117).

<sup>&</sup>lt;sup>17</sup> L. García-Ballester and M. R. McVaugh, work in progress quoted in note 12 above. The documentary evidence deals with the fourteenth-century (1280–1400) territories of Catalonia, Valencia, Aragon and Majorca.

<sup>&</sup>lt;sup>18</sup> See documents published by Michael R. McVaugh, 'Bernat de Berriacho (fl. 1301-43) and the ordinacio of Bishop Ponç de Gualba', Arxiu de Textos Catalans Antics, 9 (1990), 251-4.

<sup>&</sup>lt;sup>19</sup> Luis García-Ballester, 'Medical ethics in transition in thirteenth-fourteenth century Latin medicine: new problems on physician-patient relationship, and the doctors' fee', in A. Wear and R. French (eds.), Medical ethics: historical aspects (Amsterdam, 1993).



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century onwards,<sup>20</sup> and in the lands of the Crown of Aragon from the closing years of the same century,<sup>21</sup> is in our view the great novelty in the field of the historical sociology of European medicine. This new development was closely related to the one already mentioned in the intellectual field: the basing of medical practice on natural philosophy. Nevertheless, the information available does not allow us to establish a causal relationship between the two phenomena.

Under normal conditions, such professionals provided a reasonably satisfactory response to the problems that illness produced for the inhabitants of towns and cities and also of villages, and to the health requirements of a society that had reached a high degree of complexity as a consequence of the process of urbanization and the dynamic growth resulting from intense commercial activity. By supporting this new type of physician, the new bourgeois group (merchants, artisans, liberal professionals, rentiers) together with the nobility and the Church itself, provided him with the backing of their own social position and prestige. It is obvious that this could not have been achieved if the physician was not satisfying the expectations about health and illness that society as a whole and individuals within it had of him. It is impossible to conceive the increasing spread of learned practitioners, both physicians and surgeons, as anything other than a consequence of the effectiveness of their presence and as a demonstration of a positive response to their work by those who had it in their power to make decisions in this medieval European society. It goes without saying that this efficacy must be measured in accordance with the criteria of the society of that time. In fact, the new university bodies, through the geographical spread of university-trained practitioners, demonstrated that the conversion of medicine into a scientia was perceived as socially beneficial. Civil authorities came to establish a link between the desire for health (spes salutis) and the presence of professionally suitable physicians and surgeons (that is, those educated in the medical scientia). 22 The evidence that we currently possess about France, Italy and the east of the Iberian Peninsula (the former Crown of Aragon) seems to confirm this view.<sup>23</sup> This does not mean that the practice of these professional physicians and surgeons was totally free from criticism, or even from cruel caricatures or violent rejection, but at no time did lay society question the model of the practitioner who had been produced by the university. However, it was to

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<sup>&</sup>lt;sup>20</sup> See Nutton 'Continuity or rediscovery'.

<sup>&</sup>lt;sup>21</sup> See note 17 above.

<sup>&</sup>lt;sup>22</sup> 'Ut provisiones medicorum phisice et cirurgie et apothecariorum ... ut per eorum providenciam et scienciam medicine Nos [the king] et nostri subditi preserventur a noxis et habere possimus absque periculo spem salutis', Arxiu de la Corona d'Aragó, C., reg. 1145, fol. 24v (12 February 1354).

<sup>23</sup> See Danielle Jacquart, Le milieu médical en France du XIIème au XVème siècle, Hautes études médiévales et modernes, 46 (Geneva, 1981); Nutton, 'Continuity or rediscovery', and Italian bibliography therein; McVaugh and García-Ballester, note 12 above.



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question the eagerness of such practitioners to monopolize the practice of healing, and their wish to subject it to norms decided by academic bodies composed exclusively of those who had been trained in similar circumstances.<sup>24</sup>

An interesting feature of this period is that it allows the historian to find out how this medical system reacted when the society was subjected to an abnormal event, one that was perceived as abnormal by that society itself, as was the plague of 1348. The system and those physicians and surgeons forming part of it were put to the test. Their opinions were sought, and the procedures they designed to confront this new illness (if they did indeed consider it to be such a radical novelty) were accepted. The intellectual resources (the explanations they offered of the mechanism of the illness) and the practical ones (the specific therapeutic steps) were adopted and considered to be fairly satisfactory. And, although it takes us beyond our chronological limits, we can state that the survivors of 1348 continued to ask for the technical services of the university physicians with the same conviction as before.<sup>25</sup>

### ARISTOTELIZATION AND GALENISM

What do we understand by the 'university physician or surgeon'? Simply the individual trained in the *studia generalia* – the universities – after having followed the medical studies laid out in the *syllabi*, which, by the early fourteenth century were more or less uniform in faculties of medicine in the whole of this area of Europe.<sup>26</sup> This university form of medicine could count among its achievements the conversion of the empirical act of healing into a true *scientia* that was respectable in both intellectual and social terms. Intellectual respectability was achieved by establishing both the patient–physician relationship and the natural phenomenon of illness itself on Aristotle's *libri naturales* and the doctrines of Galen and Arab physicians, whose writings were fully assimilated in Latin Europe in the last third of the thirteenth century. Its social respectability was achieved because the professionals were able to provide a satisfactory response to the specific

<sup>&</sup>lt;sup>24</sup> See, for example, the fights between the guild of physicians (collegium) of Barcelona (with a high percentage of non-university members) and the king (supporter of the university doctors): L. García-Ballester, 'Los orígenes de la profesión médica en Cataluña: el collegium de médicos de Barcelona (1342)', in Estudios dedicados a Juan Peset Aleixandre, 3 vols. (Valencia, Universidad de Valencia, 1982), vol. II, pp. 129–55. For the problem in the Kingdom of Valencia, see García-Ballester, McVaugh, and Rubio, Medical licensing and learning.

<sup>&</sup>lt;sup>25</sup> For example, the municipal council of the town of Castelló d'Empúries sent a messenger to Avignon in January 1350 to look for a university physician and to contract him (Arxiu Històric de Girona, Castelló d'Empúries, reg. 2062, *s.f.*, 2 February 1351); see García-Ballester, 'Medical ethics in transition'.

<sup>&</sup>lt;sup>26</sup> A good survey is Nancy Siraisi, Medieval and early Renaissance medicine. An introduction to knowledge and practice (Chicago and London, 1990).



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daily challenges that illnesses presented through involvement in a complex system of medical care and attention, which, as has already been mentioned, seems to have been successful. At least the controlling social groups, from royalty down to the increasingly powerful bourgeoisie, supported this new *scientia medica* and those who based their professional activity on it.

Aristotle's works were received among circles interested in medicine, both directly and indirectly, over a long period (from the time of Boethius onwards but especially between the end of the eleventh century and the last third of the thirteenth century). This reception did not take place only within academic institutions. Nevertheless, the universities and their faculties of arts were the bodies that formulated a clear program for the 'Aristotelization' of the Latin intellectual world, and invented or reformulated intellectual analytical tools that turned out to be efficient.<sup>27</sup>

'Aristotelization' went beyond what is generally understood as the natural world: it extended to the rational analysis of the nature of man and of his relationship with his surroundings (usually his physical surroundings) and with the cosmos itself. This 'nature' of man was liable to fall ill, but was also capable of recovering good health and maintaining it; and this was achieved simply by means of human resources, which depended exclusively on the activities of man. Such activity was significant for the individual of the Middle Ages because it involved both the microcosm (man himself and the physical environment in which he moved) and the macrocosm (the universe in which man exists). 'Aristotelization' also included a way of understanding and organizing society and social life,<sup>28</sup> which was closely related to the organization of this same social body through Roman Law. Aristotle's books on ethics and politics were fervently debated in university circles in the second half of the thirteenth century, and we are sure that the intellectual innovation of quaestiones affected medical practice itself. For this reason, it is valid to point out in this context that Aristotle's Politics repeatedly emphasizes the responsibility on the part of those wielding power in society to supply technically qualified medical attendance. This point was discussed by such influential commentators as Albert the Great and Thomas Aquinas himself.<sup>29</sup> This program was derived from combining the Greek Aristotle with the commandments of Christian charity. The implementation of this program in a society which had made Christianity its basis and which was dominated by the poverty of the majority of its

<sup>29</sup> García-Ballester, 'Medical ethics in transition'.

L. Minio-Paluello, 'Aristotle: tradition and influence', in C. C. Gillispie (ed.), Dictionary of scientific biography (DSB hereafter) (New York, 1980), vol. 1, pp. 267–81; J. A. Weisheipl (ed.), Albertus Magnus and the sciences; Guy Beaujouan, 'Une lente préparation au "décollage" des sciences', in R. H. Bautier (ed.), La France de Philippe Auguste (Paris, 1983), p. 860, reprinted in Guy Beaujouan, Par raison de nombres: collected studies (Aldershot, 1991), item IV.

<sup>&</sup>lt;sup>28</sup> See J. A. Weisheipl, 'The life and works of St Albert the Great', in Weisheipl (ed.), Albertus Magnus, pp. 13-51, on pp. 30-1, and pp. 575-6 (Appendix 1).



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population was one of the problems confronting both society and these new practitioners. It is, however, an issue that we do not cover in this volume.

A new stage in medical knowledge in the West was marked by the translations made by Constantine (d. c. 1087)30 (especially that of the Pantegni of Haly Abbas (al-Majusi), but also that of Ibn al-Gazzar's Viaticum and of Johannitius' Isagoge), the later translations by Gerard of Cremona (d. 1187)31 (chief of which was Avicenna's Canon), and the continued movement of translating from Arabic into Latin, including several works by Rhazes. For these produced a great torrent of terminology, methods, medical doctrine characterized by a logical and coherent structure, and evidence of the clinical success of a rational form of medicine. Galenism, which constituted the common doctrinal foundation of all of them, demanded a direct knowledge of the medical works of Galen himself, either translated from the Greek or approached by means of Arabic versions. The whole universe of Greek medicine, including the Hippocratic tradition, was covered by the shadow of Galen, and this state of affairs was something that the Latin West inherited from their Islamic teachers.<sup>32</sup> Paradoxically, although Galen was undoubtedly the most widely admired author and an obligatory point of reference in medical matters by the mid thirteenth century, he was still a completely unknown historical figure up until the last years of that century, as Arnau de Vilanova admitted.<sup>33</sup> Galen's works, basically those of a clinical and therapeutic nature, entered the learned medical world of the Middle Ages relatively slowly until the 1270s and 1280s when an intellectual movement, which we may call the 'new Galen', suddenly burst on the academic scene.34 The availability of this considerable corpus of teachings allowed those physicians who had access to it to reconsider old questions, to formulate new readings of old texts and to make reflections and offer bold solutions which served to widen the intellectual horizons of the academic community and also of the

M. McVaugh, 'Constantine the African', in DSB, vol. III, pp. 393-5; Heinrich Schipperges, Die Assimilation der arabischen Medizin durch das lateinische Mittelater (Wiesbaden, 1964), pp. 17-54; Jacquart and Micheau, La médecine arabe, pp. 96-118. See also H. Bloch, Monte Cassino in the Middle Ages (Rome, 1986), vol. 1, pp. 93-110, 127-34.

<sup>&</sup>lt;sup>31</sup> R. Lemay, 'Gerard of Cremona', in DSB, Supplement I, vol. xv, pp. 173-92; Schipperges, Assimilation der arabischen Medizin pp. 147-53; Marie-Thérèse d'Alverny, 'Translations and translators', in R. L. Benson, G. Constable, and G. D. Lanham (eds.), Renaissance and renewal in the twelfth century (Oxford, 1982), pp. 421-62, on pp. 452-4.

<sup>32</sup> Owsei Temkin, Galenism, rise and decline of a medical philosophy (Ithaca and London), 1973.
33 'Tercium est que sit causa efficiens huius libri, quia Galienus quis autem fuerit ignoramus; verum modo tamen certa penitus auctoritate antiquorum exoprimitur ipsum divitum parentum filium excesisse et eruditum fore erudicione mirabile', Commentum super librum Galieni de morbo et accidenti, attributed to Arnau de Vilanova, Cracow, Jagiellonian Library 781, lib. I, fol. 1311. We give particular thanks to Fernando Salmón, who called our attention to this passage.

<sup>34</sup> L. García-Ballester, 'Arnau de Vilanova (c. 1240–1311) y la reforma de los estudios médicos en Montpellier (1309): el Hipócrates latino y la introducción del nuevo Galeno', Dynamis, 2 (1982), 97–158.