



THE HISTORY
OF MEDICINE
IN CONTEXT

ROUTLEDGE

Medicine and Religion in Enlightenment Europe



Edited by
Ole Peter Grell and Andrew Cunningham

Medicine and Religion in Enlightenment Europe



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Medicine and Religion in Enlightenment Europe

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and
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Contents

<i>List of Illustrations</i>	vi
<i>List of Contributors</i>	viii
<i>Acknowledgements</i>	ix
Introduction ‘Where there are three physicians, there are two atheists’ <i>Andrew Cunningham</i>	1
1 Enlightenment, Radical Enlightenment and the ‘Medical Revolution’ of the Late Seventeenth and Eighteenth Centuries <i>Jonathan I. Israel</i>	5
2 Physicians and Surgeons in the Service of the Inquisition: The Nexus of Religion and Conventional Medical Training in Enlightenment-Era Portugal <i>Timothy Walker</i>	29
3 The Ignorance of Midwives: The Role of Clergymen in Spanish Enlightenment Debates on Birth Care <i>José Pardo-Tomás and Álgar Martínez-Vidal</i>	49
4 Medicine, History and Religion in Naples in the Seventeenth and Eighteenth Centuries <i>Maria Conforti</i>	63
5 Tirami sù: Pope Benedict XIV and the Beatification of the Flying Saint Giuseppe da Copertino <i>Catrien Santing</i>	79
6 Medicine, Enlightenment and Christianity in Eighteenth-Century France: The Library Evidence <i>L.W.B. Brockliss</i>	101
7 Moral Lessons of Perfection: A Comparison of Mennonite and Calvinist Motives in the Anatomical Atlases of Bidloo and Albinus <i>Rina Knoeff</i>	121
8 ‘Imperfect Chaos’: Tropical Medicine and Exotic Natural History c. 1700 <i>Benjamin Schmidt</i>	145

9	Johann Anton von Wolter (1711–87): A Bavarian Court Physician between <i>Aufklärung</i> and <i>Reaktion</i> ? <i>Claudia Stein</i>	173
10	A Medical Miracle Revisited: The Enlightenment Debate on a Miraculous Golden Tooth <i>Robert Jütte</i>	195
11	Between Anatomy and Religion: The Conversions to Catholicism of the Two Danish Anatomists Nicolaus Steno and Jacob Winsløw <i>Ole Peter Grell</i>	205
12	Medicine, Witchcraft and the Politics of Healing in Late- Seventeenth-Century England <i>Peter Elmer</i>	223
13	Psychology and the Laws of Nature: From Souls to the Powers of the Mind in the Scottish Enlightenment <i>John Henry</i>	243
	<i>Index</i>	259

List of Illustrations

2.1	Main court, University of Coimbra (seventeenth century).	32
2.2	Torture session: Portuguese Inquisition.	41
5.1	Prospero Lambertini.	80
5.2	San Giuseppe Copertino in ecstasy seeing the Sanctuary of Loreto, 1754, by Ludovico Mazzanti, in the Basilica Santuario di San Giuseppe, Osimo. Courtesy of Comune di Bologna.	81
5.3	Microscope of Lambertini. Wellcome Library, London.	85
6.1	Portrait of Esprit-Claude-François Calvet (1728–1810), by Philippe Sauvan. Musée Calvet, Avignon.	113
7.1	Govard Bidloo, <i>Anatomia humani corporis</i> , 1685, plate 52. Courtesy of Groningen University Library.	125
7.2	Govard Bidloo, <i>Anatomia humani corporis</i> , 1685, plate 63. Courtesy of Groningen University Library.	127
7.3	Govard Bidloo, <i>Brieven der Gemartelde Apostelen</i> , 1675, Frontispiece. Courtesy of Groningen University Library.	131
7.4	Govard Bidloo, <i>Anatomia humani corporis</i> , 1685, plate 12. Courtesy of Groningen University Library.	133
7.5	Govard Bidloo, <i>Anatomia humani corporis</i> , 1685, plate 30. Courtesy of Groningen University Library.	134
7.6	Bernard Siegfried Albinus, <i>Tabulae sceleti</i> , 1734, plate 1. United States National Library of Medicine, National Institutes of Health.	140
8.1	‘Coral tree and emperor’ in Maria Sibylla Merian, <i>Metamorphosis Insectorum Surinamensium</i> (Amsterdam, [1705]).	152
8.2	‘Planche Dixième’ in Louis Renard, <i>Poissons, écrivisses et crabes de diverses couleurs et figures extraordinaires, que l’on trouve autour des Isles Moluques et sur les côtes des Terres Australes</i> , 2 vols (Amsterdam, 1718).	153
8.3	Cornelis de Man, <i>The Curiosity Dealer</i> , c. 1700?. Musée Dapper, Paris.	157
8.4	Frontispiece from Simon de Vries, <i>Curieuse aenmerckingen der bysonderste Oost en West Indische verwonderens-waerdige dingen</i> (Utrecht, 1682).	160

- 8.5 Plate 62 (vol. 1), in Albertus Seba, *Locupletissimi rerum naturalium thesauri accurata descriptio, et iconibus artificiosissimis expressio, per universam physices historiam*, 4 vols (Amsterdam, 1734–5 and 1758–65). 162
- 8.6 Gonzalo Fernández de Oviedo, *De la natural hystoria de las Indias* (Toledo, 1526). 164
- 8.7 Plate 112 (vol. 1), in Albertus Seba, *Locupletissimi rerum naturalium thesauri accurata descriptio, et iconibus artificiosissimis expressio, per universam physices historiam*, 4 vols (Amsterdam, 1734–5 and 1758–65). 165
- 8.8 Henricus d’Acquet, ‘Insecta et animalia coloribus ad vivum picta, anno 1656, et sequentibus’, 3 parts ([Delft, 1708]) [book 2, no. 22]. 167
- 8.9 Title page from Gonzalo Fernández de Oviedo, *De la natural hystoria de las Indias* (Toledo, 1526). 168

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‘Where there are three physicians, there are two atheists’

Andrew Cunningham

Historical categories, valuable as they are, bring as many problems as they solve. ‘The Enlightenment’ has more problems than most, problems of definition, problems of dating, problems of participation, problems of outcomes. What was it, when was it, who joined in and what difference did it make?

In our old-fashioned and simplistic account everything was straightforward. The Enlightenment was the movement which secularised and rationalised our world-view (for the better), it ran from Locke to Kant (c. 1650–1800), it was strongest in France, England and Scotland, and the future Germany, and everyone sensible joined in, leaving only the religious bigots outside in their intellectual and moral darkness, and the long-term result was freedom of thought and happiness for all. And above all it was an intellectual event, led by philosophers and with no pertinent social or political context.

When it came to medicine, this old interpretation put most of the doctors, anatomists and physiologists on the side of reason against superstition, of sense against nonsense, of experiment against authority, and ultimately of scientific medicine against folk-cures and quacks.

With time, however, every aspect of this sharp account has become nuanced and more ambiguous, and it is more and more difficult to pronounce with confidence on any aspect of the Enlightenment. But one thing we can say with certainty, and which is borne out by the papers in this volume, is that religious sensitivity and sensibility was still everywhere around the eighteenth century physician, Enlightenment or no Enlightenment.

The old medieval saying had it that physicians always ran the risk of atheism, on account of their studies: *ubi tres medici, ibi duo athei*, ‘where there are three physicians, there are two atheists’. Sir Thomas Browne in the seventeenth century called it ‘the scandal of my profession’, the view that physicians were tantamount to atheists. This was still the case in the eighteenth century, and medical men were certainly among the leaders when it came to flirting with atheism. The ‘mechanistic’ approach to the body – the view that the body works solely in terms of matter in motion, with no soul governing it all – had been begun by Descartes in the 1630s. Isaac Newton, though personally perhaps the most devout man of his age, had challenged Descartes’s ‘godless’ mechanistic approach with a new physics of forces acting across distance with no contact. Followers such as Hermann Boerhaave the great medical teacher at Leiden, who trained a generation of physicians from all over Europe, adopted this Newtonian version. So it certainly was true that at the very heart of medical study in Europe, a (relatively) godless form of physics underlay physiology and pathology. But as Newton said, with action comes an equal and

opposite reaction, and not only within the medical profession but also outside it there were self-appointed guardians of Christianity who tried to keep the medic on the path of righteousness, or to damn him if he wavered.

The clash or confrontation between such opposed views are clearly in evidence in the opening chapter. Jonathan Israel, following up his own ground-breaking work on the Dutch Enlightenment, puts the philosophy back into the discussion in his very rich contribution to this volume. He can demonstrate more confrontations between religious and medical interests than hitherto believed, because he is able to show that in addition to what he calls the 'moderate' Enlightenment reformers, there was also a radical tradition, whose members were positively keen to challenge religious belief. These radicals were freethinkers and even atheists, and many of them were followers of Descartes and Spinoza, whether they publicly admitted it or not. In Leiden, The Hague, Amsterdam and elsewhere these radicals were promoting medical reform – that is, reform in the understanding of how the body works, in what disease consists and how to treat diseases more effectively. This was a central concern of certain Dutch doctors who had become convinced believers in the mechanical philosophy. Exported to London, this philosophy encouraged the physician Bernard Mandeville to turn his interests toward treating melancholy and other mental conditions without recourse to the concept of the soul. Via the French refugee physician La Mettrie, this radicalism reached Berlin and Germany, while Spinozan ideas spread among physicians in Altona, a suburb outside Hamburg, which offered religious tolerance. It was here while 'city-physician' that the later physician to the Danish court, Johann Friedrich von Struensee, was won over to the radical Enlightenment.

Beyond Israel's contribution on some of the centres of Enlightenment thinking, we have tried to achieve coverage of one aspect or another of most of the regions of western Europe, beginning with a tour around the Catholic heartlands. We begin in the old centres of empire – Portugal and Spain – now sinking in the west under the weight of Counter-Reformation Catholic orthodoxy, despite some of their medical intellectuals looking toward more progressive medical environments in Europe for inspiration. We then turn to Italy, where again the contradictions between well-meaning Enlightenment reform ran up against the reefs of an aggressive Catholicism.

A most curious state of affairs – a seeming contradiction – in Portugal concerning medicine and religion in the Enlightenment (*o Iluminismo*) is revealed by Timothy Walker. He shows that the greatest period of 'witch-hunting' of popular healers coincides exactly with the development of more rational approaches to medicine there. Regularly licensed physicians were used by the Inquisition to persecute heresy and other crimes against God, but equally these same physicians used the Inquisition to persecute the practitioners of popular medicine – in the name of reason and progress! The antiquated educational system in medicine in Portugal did not change until that great son of the Enlightenment, Pombal, made his reforms in the 1770s.

Turning to Spain, José Pardo Tomás and Álvar Martines Vidal discuss the arguments over who was competent to be a birth-assistant: women or the new man-midwife. The Catholic clergy had a major role in making claims on one side or another, not just on the need for someone competent to perform baptism on a dying infant, but also on the natural capacities of men and women to learn. The authors

comment on what they call ‘the eloquent silence’ of the midwives in this whole discussion, unable to speak out because of their social position, their lack of formal education, and lest they get mired in the religious arguments.

In southern Italy the Inquisition continued to be active in Naples, still at this time Europe’s second largest city. The more liberal or progressive thinkers, medics among them, still had to be cautious in what and how they wrote. Maria Conforti discusses the engagement of medical men in Naples in the writing of history, indeed shows that the celebrated Giambattista Vico’s famous *Scienza nuova* was in part a product of his association with medical men. She attributes the interest of Neapolitan medical men in human history and the history of disciplines, as deriving, at least in part, from their medical interest in patient’s histories and in the establishing of facts in medicine. Her chapter points to the need to address the relation of ‘naturalistic’ Neapolitan histories of all kind to contemporary religious narratives.

If there was ever a pope who can be said to have been ‘enlightened’ in the sense that he was in favour of systematic and experimental investigation of nature, it must be Benedict XIV. While Cardinal in Bologna he had very actively promoted such studies, equipping a whole building with instruments and investigators. However, as Catrien Santing shows, when it came to his duties within the Church, one thing he had to do was establish and maintain new, stricter, standards for the declaration of sainthood. That a candidate had performed miracles (that is, beyond the power of nature) would no longer ensure their sanctity; instead, they had to have shown heroic devotion – something which, amazingly, could be demonstrated by witnessed accounts of their capacity to fly, and their insensitivity to pain when in a devotional ecstasy!

Although the Enlightenment in France is generally taken to be the most anti-clerical and hostile to religion, L.W.B. Brockliss cautions us against assuming that French physicians were typically enlightened and against religion and the Catholic Church. By a painstaking analysis of catalogues of personal libraries of several physicians he explores the committed Christian faith of most of them, together with their interest in moral and social improvement: ‘this Catholic enlightenment was this-worldly and humanist’, he concludes.

Anatomical representation is not an area where one might at first glance expect to see the influence of religious commitment: anatomical art is surely independent of religion? But Rina Knoeff, in her study here of two very famous Dutch anatomical atlases, shows that the two anatomists portray their subjects quite differently: dead on the one hand, seemingly alive on the other. Knoeff finds the decision about how to depict the human body comes from the different religious commitments of each anatomist. Govard Bidloo was a Mennonite, an extremely sober sect practising ‘the theology of martyrdom’, and constantly resisting the vanities of this world and conscious of the imminence of death. His anatomical images are of suffering and torment. Reciprocally, the atlas of Bernard Siegfried Albinus, portrays his subjects as if joyfully alive, and here Knoeff shows that this was a consequence of the Dutch Enlightenment – which was, in its very essence, Calvinist!

Dutch physicians and surgeons, together with Dutch publishers, were pre-eminent in the making of natural history collections and of illustrating the visual images of the exotic things explorers found. Benjamin Schmidt explores the extensive role

that physicians had in collecting exotic natural historical items all around the world, itself an Enlightenment phenomenon – ‘discovering, ascertaining and naming all the various productions of Nature’, as Oliver Goldsmith said. Schmidt claims it was the sheer exotic nature of the items gathered, illustrated and published that fascinated the Dutch medics, and that this put this fascination with natural history way beyond any more local religious concern.

Bavaria’s ‘most enlightened physician’ was put in a strange position: his own daughter was exorcised in his presence, and the devil expelled from her, by a Catholic priest in 1774. Yet the physician welcomed this event, since he saw it as a counter to the materialistic tendencies of current philosophers, especially David Hume. Claudia Stein shows that, surprisingly, a Catholic theologian who was also present, was unpersuaded that the exorcism was anything but a trick. Stein uses this moment to open new questions about the Bavarian Catholic Enlightenment, and the relation of religion to natural philosophy.

Still in the German lands, Robert Jütte deals with the persistent ‘miraculous’ story of the boy who grew a golden tooth, discussed repeatedly from the late sixteenth century well into the eighteenth. Doctors, dentists, philosophers, through Fontenelle to Voltaire, all participated in this story at the beginning, or in its later uses as an exposé of superstitious Catholic practices by Protestant and other critics.

Then there is the strange case of the Danish Lutheran anatomist, son of a pastor, who went to Paris where he practised anatomy most successfully, but also became a Catholic. And it all happened not once but twice, with both conversions involving the same great Catholic preacher, Bossuet. Ole Grell explores what was common and what was specific to these two cases, Nicolaus Steno and his great-nephew Jacob Winsløw. How and why was Paris and anatomy dangerous to the religious commitment of good Lutheran lads from the north?

Peter Elmer suggests that Spinoza – so central to radical religious and philosophical speculation in the Netherlands and elsewhere in the Enlightenment – may have been indebted in the first place for some of his thinking to physician collaborators in the 1650s in the United Provinces. This radical stance by physicians is in marked contrast to the situation in England, where even dissenting physicians do not appear to have taken radical positions on religion, despite so many of them having learned their medicine in the Netherlands. They were not even opposed to the belief in witchcraft – indeed they often invoked diabolism in cases of mental disturbance, which appears to have had a high incidence amongst dissenters.

Finally, in Scotland, John Henry, on the search for the origins of modern psychology, epitomises the complexity of the situation with respect to religion and medicine that this volume is devoted to. For he claims that the Scottish ‘common-sense school’ of philosophers developed a view that the mind operates according to natural laws – the essence of the scientific approach, one might think – but that they did so because they were trying to protect religion! For laws of nature guaranteed the existence of an omnipotent God.

Together these chapters demonstrate the diversity and complexity of the Enlightenment with respect to medicine, and the continued significances and roles of religion right to the end of the eighteenth century.

Enlightenment, Radical Enlightenment and the ‘Medical Revolution’ of the Late Seventeenth and Eighteenth Centuries

Jonathan I. Israel

The new trend of the last few years to revisit the great intellectual controversies of the Enlightenment, reacting to the long primacy of the so-called new ‘social history’, has, incipiently at least, called into question the long-standing tendency among medical historians to avoid the problem posed by the fact that some Enlightenment physicians thought there had been a ‘medical revolution’. For this new trend focuses attention on the powerfully guiding social role of philosophy and philosophical debate and drastically revises still prevailing notions in the historiography about the concept of ‘revolution’.¹ By highlighting the social impact of such debates this new tendency renders more relevant than has generally been supposed the pervasive early Enlightenment preoccupation with grounding far-reaching medical reform primarily on philosophical ideas. The shift also, of course, generates a new problematic as regards the relationship between medicine and religion in the Enlightenment era.

My aim in this present essay is to try to connect the medical debates of the period to the pan-European philosophical controversies of which they were inherently a part, attempting to show how the triangular character of the great intellectual battles of the age is reflected in the medical quarrels. If one begins with the actual controversies in society rather than prejudged ‘great men’, ‘great books’ and ‘great ideas’, one is quickly struck by how pressing is the need to replace Peter Gay’s 1960s notion of a ‘unitary Enlightenment’, using a socially and culturally much broader tripartite schema of philosophical and ideological conflict. I propose to begin by postulating the following tripartite framework: firstly, a dominant moderate Enlightenment (based on Locke and Newton), which in Holland, France and Italy was heavily Anglophile in orientation; secondly, an entrenched traditionalism and religious orthodoxy fomenting Counter-Enlightenment attitudes; and lastly, on the opposite flank, a far more radical philosophical tendency, firmly anti-Boylean, anti-Newtonian and anti-Lockean in orientation, essentially materialist and inspired by the hylozoic systems of Spinoza, Bayle, Diderot, La Mettrie, Helvétius and d’Holbach, but also incorporating some important elements of Cartesianism.

As a way of demonstrating how this wider triangular struggle shaped the controversies dividing and polarising the medical world of the Enlightenment, I shall

1 On this, see, among other recent publications, John Robertson, *The Case for the Enlightenment. Scotland and Naples, 1680–1760* (Cambridge, 2005); and Jonathan I. Israel, *Enlightenment Contested. Philosophy, Modernity and the Emancipation of Man (1670–1752)* (Oxford, 2006), pp. 1–42.

attempt to review the ideas and attitudes of several of the more radical-minded and more ‘philosophical’ medical reformers of this period, showing how they sought to use philosophy to revolutionise medical science and practice, and how their doing so drew religion and theological concerns in a more active way than in the past into medical debates. At the same time as outlining and linking up the battles in which these radical medical reformers became engaged, I shall ask whether it might be possible to formulate a general theory explaining the origins, orientation and goals of the European Radical Enlightenment as it played out in the medical sphere.

A key point, it would seem, is that the two primary emancipating tendencies of the philosophical revolution engineered by Descartes and Hobbes became in some sense detached and reworked by the two rival Enlightenment wings into essentially opposed and irreconcilable styles of replacing the medical culture of the past. On the one hand (that of the Radical Enlightenment), the revolutionary aspect of Cartesianism urging that the entire intellectual baggage of the past be jettisoned and that wholesale reform should proceed on the basis of wholly new mechanistic premises,² was the prime impulse, while the experimental, eclectic, empiricist implications of freeing men from the intellectual shackles of the past, though accommodated, was subordinated to radical Cartesian, Spinozist or neo-Spinozist (as in La Mettrie and Diderot) systems excluding all non-physical and non-measurable causes. In moderate enlightened medical culture, by contrast, a more piecemeal empiricism of the sort associated with Locke was preferred and the systematic, revolutionary impulse in Cartesianism, and emphasis on wholly new philosophical principles, were subordinated to a desire to compromise with existing professional structures, social hierarchies, and ‘the market’, which usually meant the dictates of fashion and conventional thinking.

The moderate bloc of the medical Enlightenment, in other words, was predominantly conservative in religious and social matters and mostly sanctioned only cautious, piecemeal and gradual reform based on demonstrably proven improvements. Radical medical ideas, by contrast, sharply clashed with traditional religious conceptions, and advocated far more sweeping programmes of medical reform typically justifying this on the basis of philosophical axioms of a stripped-down ‘Cartesian’ (that is, in effect, one substance) or Spinozist type. The difference in social aims between these opposed medical ‘reformations’ was also of great importance. For moderate Enlightenment tended to defend the existing social and political order and in the medical sphere preferred to adapt rather than overthrow existing medical institutions, usually confining its healthcare concerns to the needs of society’s small, wealthy elites. Radical Enlightenment, by contrast, was more democratic and egalitarian in tendency, and hence more inclined to think in terms of the healthcare needs of society as a whole. Counter-Enlightenment traditionalists, meanwhile, strenuously resisted the programmes of both Enlightenment wings.

This tripartite schema applied throughout Europe though the pace and timing certainly varied from country to country. In 1691, for instance, the German radical materialist Gabriel Wagner (1660? – c. 1717?), one of those who aspired to engineer

2 On this ‘revolutionary’ aspect of Descartes, see Peter Schouls, *Descartes and the Enlightenment* (Edinburgh, 1989), pp. 14–38, 73–7, 162–3.

a far-reaching 'reformation' of the entire German academic system, laying far greater emphasis than in the past on mathematics, physics, medicine and history, reducing the role of theology and as far as possible eliminating older authorities and practices, noted that while few sympathised with his call for sweeping reform, yet nearly all the university-trained physicians in Germany were now *Eclectics*, in the sense of being emancipated from older doctrines of whatever stamp. This was in sharp contrast, he thought, to France where many doctors were still pre-Cartesian 'Aristotelici, Galenici, Ptolomaici', a degree of backwardness in his opinion still more evident in Italy and Spain.³ In any case, it seemed indisputable to him – and surely he was right here – that Cartesianism was the engine which had shattered the edifice of traditional medical thought.

Wagner belonged to a tiny minority, a fringe of radical thinkers opposing the Thomasian and Leibnizian–Wolffian 'enlightenments' which in the German-speaking world, Scandinavia and Russia constituted the middle ground, or the equivalent to the Lockean–Newtonian construct predominant further west. But if tiny and considered disreputable, the radical wing on the 'left' penetrated widely and from the 1660s became solidly entrenched with known gathering points in various cities. Thus there was a 'wine tavern' in Utrecht, reported Hadrianus Beverland, one of the most decried of the Dutch freethinkers, in 1679, where notorious 'Spinozists' like Cuffeler, Overcamp and others liked to meet.⁴ This comment brackets the lawyer, Abraham Johannes Cuffeler (c. 1637–94), with Dr Heydenrijk Overcamp (c. 1650–93), a physician suspected of Spinozism and a known ally and friend of the still more energetic reforming physician, Cornelis Bontekoe (c. 1644–85) who, while publicly professing to be a 'Cartesio-Geulincxian' in philosophy, and foe of Spinozism, was in the eyes of many no less disreputable a figure than Overcamp. He was also someone ardent for wholesale reform of both medical theory and practice.

Owing to theological objections to his views and terminology, the humbly born Overcamp underwent the humiliation of having his dissertation on gangrene and necrosis quashed by Leiden University in 1677, and his diploma officially burned.⁵ Later, in 1680, he was again disciplined by the Leiden academic authorities, this time for reportedly insinuating in his private classes that Christ was just a person like any other, that his divinity, purity and mission as the world's saviour are mere fables, and that there is no resurrection after death.⁶ A declared enemy of traditional thinking in medicine and philosophy alike, he derided exponents of Aristotelian scholasticism

3 Gabriel Wagner [Realis de Vienna], *Discursus et dubia in Christ. Thomasii introductionem ad philosophiam aulicam* ('Regensburg' [Frankfurt an der Oder?], 1691), pp. 2, 65.

4 Rudolf de Smet, *Hadrianus Beverlandus (1650–1716)* (Brussels, 1988), p. 48; Inger Leemans, *Het woord is aan de onderkant. Radicale ideeën in Nederlandse pornografische romans, 1670–1700* (Utrecht, 2002), p. 279.

5 C.L. Thijssen-Schoute, *Nederlands Cartesianisme* (1954; repr. Utrecht, 1989), pp. 286–7; Jonathan. I. Israel, *Radical Enlightenment. Philosophy and the Making of Modernity (1650–1750)* (Oxford, 2001), p. 310.

6 Willem Ottespeer, *Groepsportret met dame:ii: de Leidse universiteit, 1673–1775* (Amsterdam, 2000), p. 97.

as ‘our hocus-pocus masters’,⁷ and later became a regular member of the Spinozist coterie in Amsterdam.⁸ Like Cuffeler, he considered Descartes’s concept of motion to be flawed, motion in their view being entirely inherent in, and not external to, matter.⁹ That Cuffeler both knew of and endorsed, Overcamp’s thesis that ‘motum esse corpus ipsum extensum et indivisibile’ is shown by his citing the latter in this connection in his Spinozistic *Specimen artis*.¹⁰

Overcamp was a vigorous medical reformer on paper and in practice. But it was his ally and ‘closest friend’, as he calls him,¹¹ Cornelis Bontekoe, son of a Mennonite shopkeeper of Alkmaar, a devotee of the philosophy of the Flemish Cartesian Arnold Geulincx (1624–69), who emerged as the most vociferous champion of wholesale medical reform in the 1670s and 1680s. Convinced most people’s ideas about virtually everything – society, politics and religion, no less than philosophy, science and medicine – were wildly wrong,¹² his writing provides some of the most revealing evidence of the linkages between systematic philosophy, religious controversy and the medical reformism of the age. In public at least, Bontekoe fiercely decried Spinoza’s thought as a very dangerous ‘poison’ which has ‘nothing in common with [that of] Descartes’,¹³ claiming to be actively combating the ‘monster’ Spinoza on behalf of Cartesianism. This public stance is usually deemed sincere, as indeed it may have been, though it is hard entirely to exclude the possibility of this being a case of ‘he doth protest too much’. For whatever his private thoughts about Spinozism, Bontekoe himself had undoubtedly been suspect since at least 1675, following an imbroglio involving the university curators at Leiden (where he was then giving private classes), in which he was accused of urging students to follow Descartes in systematically doubting everything.¹⁴ A leader of militant Cartesian sentiment at the university, he also played a key role in the harassment of the anti-Cartesian professor

7 Heydentryk Overcamp, *Alle de medicinale, chirurgicale en philosophische werken*, 2 vols (Amsterdam, 1694), vol. 1, p. 4. This and all other translations are by the author.

8 Rink Vermij, ‘“Le Spinozisme en Hollande”: le cercle de Tschirnhaus’, *Cahiers Spinoza* 6 (1991): 164–5.

9 Heydentryk Overcamp, *Nader ondersoek over het tweede deel van de beginselen der wysbegeerte van Renatus Descartes* (Amsterdam, 1683), pp. 96–7, 125, 128–9, 138–9; Thijssen-Schoute, *Nederlands cartesianisme*, pp. 300–1.

10 [A.J. Cuffeler], *Specimen artis ratiocinandi*, 3 vols (‘Hamburg’ [Amsterdam], 1684), p. 3.

11 Overcamp, *Alle de medicinale*, vol. 2, ‘Voor-reden Aen-alle Chirurgyens’.

12 Cornelis Bontekoe, *Een nieuw bewys van d’onvermijdelijke noodzakelykheyt en groote nuttigheyt van een algemene twyfeling nevens de reden* (Amsterdam, 1685), p. 21.

13 Cornelis Bontekoe, *Een Brief aen Jan Fredrik Swetsertje, gesworen vyand van alle reden en verstand, hoofdlasteraar van de twee groote mannen Coccejus en Descartes* (n.p., n.d. [1681?]), pp. 11–12; Wiep van Bunge *et al.* (eds), *The Dictionary of Seventeenth- and Eighteenth-Century Dutch Philosophers*, 2 vols (Bristol, 2003), vol. 1, p. 130.

14 Cornelis Bontekoe, *Een Apologie van den auther tegens sijne lasteraars*, in C. Bontekoe, *Tractaat van het excellenste kruid thee*, 2nd edn (The Hague, 1679), pp. 321–67, here pp. 361–2.

Gerardus de Vries (1648–1705) resulting, in 1674, in the latter's resignation amid much bitter recrimination, and his subsequent withdrawal to Utrecht.¹⁵

In December 1675, Bontekoe was ordered by the Leiden university curators to cease 'holding all private classes and seminars' at the university and was told that 'henceforth he should not be present in any lessons, disputations or other academic events'.¹⁶ Like his friend Overcamp, he was clearly considered an undesirable influence on the students, though later he protested that whilst teaching at Leiden (in the years 1674–5), he had always maintained that Descartes had never taught 'that one should doubt concerning God'.¹⁷ Bontekoe, in any case, not only knew Spinoza's published works in detail but, by his own admission, frequently mixed with declared Spinozists and also broadly shared with them a desire to engineer a vastly ambitious and wide-ranging programme of social reforms, including drastic changes in medical and popular culture.

Overcamp and Bontekoe, if cruder in their analyses, also both clearly foreshadowed certain key features of Boerhaave's reforming system of medicine, or rather Boerhaave's system as interpreted by radical medical reformers such as La Mettrie and Struensee. Firstly, they wholly eliminated Descartes's rigid dualism which conceived of body and mind as essentially different substances, thereby reducing all areas of medicine, including depression and mental illness, to a single mechanistic system. Secondly, they insisted that all the laws governing the body in health and sickness are the same as those that govern the rest of the universe. Thirdly, they incorporated strands of iatrochemistry into their all-embracing mechanism, putting great stress on the functional character of the body's glands and tubes and the secretion, balancing and circulation of the body's fluids, describing the body in effect as a self-moving machine.

Although it is not entirely certain that Bontekoe knew Spinoza personally, this does seem likely. Indeed, one contemporary source states that he was the physician, or one of those – Spinoza's Lutheran biographer Colerus mentions Lodewijk Meyer in this connection – who tended Spinoza on his death-bed.¹⁸ If true, this would be unsurprising since Spinoza's lodgings were situated just across the still-existing narrow street from the Heelige Gasthuis hospital, which Bontekoe regularly visited from the time he moved to The Hague in around 1676. The same source also cites Bontekoe as the originator of the story (later publicised by Bayle, in his *Dictionnaire*) that the dying Spinoza refused to be visited by any clergyman

15 *Dialogue van een groote thee en tobacq suyper; over het wonderlijk hart gevecht voorgevallen in Den Haag tusschen twee moedige hanen en schermers, Johan Fredericq Swetser alias Doctor Helvetius en Mennoniste Kees alias Dr Cornelis Bontekoe in 't Jaar 1680* (n.p. [The Hague?], n.d. [1681?]), pp. 26–7 (I am grateful to Annette Munt for drawing my attention to this pamphlet); Israel, *Radical Enlightenment*, p. 479.

16 Israel, *Radical Enlightenment*, pp. 224, 283.

17 Bontekoe, *Apologie*, p. 362.

18 *Dialogue van een groote thee en tobacq suyper*, p. 45; K.O. Meinsma, *Spinoza et son cercle* (1896), expanded French edn (Paris, 1983), pp. 470, 486–7; W.N.A. Klever, 'Spinoza's Life and Works', in Don Garrett (ed.), *The Cambridge Companion to Spinoza* (Cambridge, 1996), p. 50; Steven Nadler, *Spinoza. A Life* (Cambridge, 1999), p. 350.

of whatever denomination.¹⁹ It was only natural for Bontekoe to be fascinated by Spinoza, given his ardent conviction that ‘philosophy is the root of all the sciences’ and that the chief reason medical practice in Holland, as elsewhere, was so defective was that everything was based on the wrong set of philosophical premises.²⁰ It was also Bontekoe, as Bayle notes, who attended the auction of Spinoza’s belongings, which took place shortly after the philosopher’s death at The Hague, in the house where he died.²¹ Among several eminent persons reportedly among the crowd attending the auction, it is remarkable that the first narrator of this event, Sebastian Kortholt, cites only one individual by name, and that was Dr Bontekoe, present, he says, for the purpose of purchasing Spinoza’s library.²²

Bontekoe was unquestionably well acquainted with, not to say allied to, several other persons besides Overcamp who clearly belonged to, or were close to, Spinoza’s Hague circle, notably Petrus van Balen (1643–90),²³ and Hadrianus Beverland (1650–1716).²⁴ Like these men, he held that it is only through independent critical thinking, questioning almost everything one learns as a child, that men and women eradicate the prejudices, false assumptions and credulity which in their view scar and disfigure human life; only by this means can men achieve a rational perspective on the most basic and important questions.²⁵ While running a profitable if embattled medical practice and chemical laboratory at The Hague, Bontekoe also gave public lectures and demonstrations, combining philosophy with medicine, always insisting on the need for more experiment and promising that his discoveries and new methods would help ward off sickness and prolong life.²⁶ In medicine he wanted to reform almost everything, fiercely condemning blood-letting, purging and all the usual remedies of traditional medicine, lambasting the apothecaries and most of the rest of the medical profession, and stressing the importance of keeping the body fluids in balance.²⁷ He especially recommended tea, coffee and tobacco as aids to good

19 *Dialogue van een groote thee en tobacq suyper*, p. 45; Pierre Bayle, *Pensées diverses sur la comète* (1683), ed. A. Prat (Paris, 1994), pp. 134–5.

20 Cornelis Bontekoe, *Vervolg van het eerste deel van het nieuw gebouw der Chirurgie of Heel-Konst* (The Hague, 1681) p. 5v.

21 F. Charles-Daubert and Pierre-François Moreau (eds), *Pierre Bayle. Ecrits sur Spinoza* (Paris, 1983), p. 180.

22 S. Kortholt, *Praefatio* to Christian Kortholt, *De tribus impostoribus magnis* (Kiel, 1680); Meinsma, *Spinoza et son cercle*, p. 486.

23 Cornelis Bontekoe, *Brief aen Johan Frederik Swetzer, gesegt Dr Helvetius [...]* *Tot een korte apologie voor den grote filosoofh Renatus Descartes en sijne regtsinnige navolgers* (The Hague, 1680), p. 46. I am indebted to Annette Munt for drawing my attention to this important pamphlet, at Wolfenbüttel.

24 Bontekoe, *Brief aen Johan Frederik Swetzer*, p. 47; Bontekoe, *Een Nieuw bewys*, pp. 10–11, 20–1.

25 Bontekoe, *Een Nieuw bewys*, pp. 7–9, 11.

26 Bontekoe, *Apologie*, p. 350; Thijssen-Schoute, *Nederlands cartesianisme*, p. 284.

27 For the details of Bontekoe’s medical reformism, see Annette Munt, ‘The Impact of Dutch Cartesian Medical Reformers in Early Enlightenment German Culture (1680–1720)’, University College London PhD thesis, 2004, pp. 59–72; Annette Munt, ‘The Impact of Dutch Medical Authors in German translation (1680–1720)’, in Lotte Hellinga *et al.* (eds), *The Bookshop of the World* (’t Goy-Houten, 2001), pp. 219, 221–7.

health. His claim that the day and hour of one's death is not prearranged by God or Nature, but depends in large measure on one's life-style and diet, aroused both opposition and derision.²⁸

Indeed, one of the stock complaints against him was his claim that it lies in an individual's power not just to regulate but prolong one's life. Hence a favourite way of ridiculing Bontekoe was mockingly to proclaim tea, coffee and tobacco items 'which can cure all sicknesses'.²⁹ A true radical spirit, Bontekoe averred that 'tyranny' and 'deception' pervade every aspect of politics, religion and social relations,³⁰ and even asserted in print that the people are lied to and manipulated systematically by theologians, philosophers, doctors, lawyers and moralists as well as statesmen. It seemed obvious to him that royalty is utter nonsense and nobility nothing but ridiculous affectation and pretence, so that if one removes an aristocrat's titles, fine clothes and servants, and strips him naked, one finds – however much he might believe otherwise – that actually he is just like everyone else.³¹

Spinozism, held Bontekoe, was something every thinking person needed to know about and be armed against. The problem was, he complained, that whenever someone like himself spent a good deal of time debating with 'atheists', familiarising himself with them and their points of view (so as to refute them all the more effectively), one soon gets to be labelled by ordinary and superficial minds a 'deceiver and an atheist' oneself.³² Bontekoe's career in The Hague between the mid 1670s and early 1680s does indeed illustrate how profoundly zeal for Bontekoe-style 'Cartesian' reform both polarised and destabilised the medical profession of the later Dutch Golden Age. Ideological strife between medical conservatives and 'Cartesians' which Bontekoe did much to instigate and intensify at The Hague, in some respects paralleled the larger quarrel raging between the Voetians and Cartesio-Cocceians within the Reformed Church and university theology faculties.³³ These Dutch medico-philosophical battles of the era invariably raised the issues of Spinozism, and Spinoza's Hague and Amsterdam circles, and were acrimonious in the extreme. This was the case at Rotterdam, Utrecht and Amsterdam, particularly after Bontekoe moved there in 1681, no less than at The Hague and Leiden. Bontekoe's chief adversary in Amsterdam, significantly, was none other than the theologically Arminian Dr Egbertus Veen, the anti-Cartesian and anti-Spinozist friend and host of John Locke.³⁴

28 Bontekoe, *Tractaat [...] benevens een kort discours*, pp. 38, 199; Van Ruler, 'Calvinisme', p. 26

29 *Dialogue van een groote thee en tobacq suyper*, p. 3.

30 *Dialogue van een groote thee en tobacq suyper*, pp. 8–10, 12.

31 *Dialogue van een groote thee en tobacq suyper*, pp. 10, 12, 20, 43, 50–1.

32 *Dialogue van een groote thee en tobacq suyper*, p. 38.

33 Munt, 'Impact of Dutch Cartesian Medical Reformers', pp. 65–8.

34 Cornelis Bontekoe, *Reden over de koorts* (The Hague, 1682), p. B2; on Veen's connection with Locke, see L. Simonutti, 'Religion, Philosophy, and Science: John Locke and Limborch's Circle in Amsterdam', in J.E. Force and D.S. Katz (eds), *Everything Connects: In Conference with Richard H. Popkin. Essays in his Honour* (Leiden, 1999), pp. 293–324, here pp. 302–3.

Whilst in The Hague Bontekoe became the focal point of a full-scale cultural and ideological war over medicine, and more generally about improving the quality of healthcare and human life, which inextricably involved issues of religion. Around 1680, he relates, six or seven of the city's doctors still identified themselves as what he calls 'dryvers van d'oude opinien' [upholders of the old views] implacably opposed to 'me and the truth'.³⁵ Denounced as a fellow-traveller of the Spinozists by his opponents, Bontekoe was the last person to be discouraged by having most of his colleagues ranged against him. In several hard-hitting tracts, he roundly assails his detractors, vigorously fending off the charge of being a Spinozist by stepping up his verbal assaults on Spinoza. In his *Apologie van den auteur tegens sijne lasteraars* [Apology of the Author against his Slanderers] of c. 1678, he even vows to show the world, should God provide time and opportunity,

what sort of atheist I am when I write refuting that godless work of Spinoza, and also those of Hobbes and Machiavelli, three of the damndest rascals the world has ever seen, men who – were there not already an Antichrist in Rome – could pass for true anti-Christ, being embodied devils, having opposed true religion, true philosophy and true [social] policy.

He was never to get that opportunity, though, dying prematurely in 1685 after falling down a staircase in Berlin, shortly after being appointed personal physician to the Elector of Brandenburg.

Bontekoe was so vehement in his campaign for thoroughgoing medical reform that normal professional relations between him and most of the physicians, surgeons and apothecaries of The Hague, inclined as they were to what Bontekoe calls 'd'oude secte' [the old teaching, that is to say, that of Galen], were irreversibly soured. By his own account, he and his opponents conducted themselves towards 'each other as if at war'.³⁶ Acrimony reached such a point that the 'old sect' refused to accord him even the most basic courtesies, so that on encountering each other in the street, he and his adversaries, remarks Bontekoe, would stride past one another in silence 'like Quakers'.³⁷ During his Hague years, he was by no means wholly without allies though, being close among others to Dr Michael Mandeville (1639–99) 'vermaard doctor te Rotterdam' [famous doctor at Rotterdam], father of Bernard Mandeville (1670–1733) and an enthusiastic adherent of the new mechanistic 'Cartesian' medicine,³⁸ who as city physician of Rotterdam had a flourishing practice there.³⁹ On one occasion, Mandeville 'a man indeed no less experienced in his science as

³⁵ ³² Bontekoe, *Vervolg*, dedicatie.

³⁶ Bontekoe, *Vervolg*, 'Na-reden'.

³⁷ Bontekoe, *Vervolg*, p. 60.

³⁸ Bontekoe, *Vervolg*, pp. 5v, 336; Munt, 'Impact of Dutch Cartesian Medical Reformers', p. 65.

³⁹ R. Dekker, 'Private Vices, Public Virtues Revisited: the Dutch Background of Bernard Mandeville', *History of European Ideas* 14 (1992): 482–3; E.J. Hundert, *The Enlightenment's Fable: Bernard Mandeville and the Discovery of Society* (Cambridge, 1994), pp. 2–3; H.J. Cook, 'Bernard Mandeville and the Therapy of the "Clever Politician"', *Journal of the History of Ideas* 61 (1999): 111–12.

our men of The Hague are determined not to be',⁴⁰ as Bontekoe puts it, was publicly slighted in the street by two Hague physicians for no other reason than that he was seen walking together with Bontekoe.

Michael Mandeville, originally from Nijmegen, had probably already imbibed his radical tendencies and Cartesianism as a student at Leiden in the mid 1660s. Soon after establishing himself in Rotterdam in 1668, he was appointed city physician and administrator of the municipal hospital. He also became an officer in the civic militia and seemingly nurtured strong anti-Orangist and anti-Voetian political views. Like his son, Bernard, he was implicated in the so-called 'Costerman' tax riots of 1690 for which he was eventually banished from Rotterdam by the then Orangist and pro-Voetian city government in 1693.⁴¹ He spent his last six years practising medicine in Amsterdam. Bernard Mandeville, for his part, migrated to London where, in November 1693, fairly soon after establishing himself as a doctor there, he was named by the College of Physicians as one of seven practitioners who were to be summoned for practising medicine in London without permission.⁴²

A rare and overlooked pamphlet which furnishes some additional detail about the medical 'wars' at The Hague during Spinoza's last years and immediately following his death, is a 50-page polemical open letter penned by Bontekoe, his *Brief aan Johan Frederik Swetzer*, printed at The Hague and dated 22 July 1680, fiercely attacking his chief adversary there, the militant Voetian, Orangist, alchemist and anti-Cartesian physician, Johann Friedrich Schweitzer (Swetzer) (1630–1709), more often known – including to Spinoza – as Dr Helvetius. This reactionary-minded physician, originally from Koethen in Anhalt, had come to the Netherlands as a student acquiring his doctorate, with a dissertation on the plague, at Harderwijk in 1653. Derided by Bontekoe as a 'sworn enemy of all reason and understanding',⁴³ he was an enthusiastic amateur theologian, controversialist and alchemist, sworn to fight Spinozism and obsessed among other things with searching for ways to make gold.⁴⁴

Rejection of all supernatural agency in this world was a feature of Spinozism totally abhorrent to Helvetius. An out-and-out reactionary, his vitriolic diatribes against Cartesianism, Cocceianism, Spinozism, and Bontekoe's medical reformism, could by no means be ignored. For he did not lack support in the city and at stake was Bontekoe's reputation and the outcome of the struggle between The Hague's rival medical factions. In line with the wider Voetian campaign against the Cartesians in the 1670s and 1680s, Helvetius' polemical strategy was to tar Bontekoe and the medical Cartesians as the abettors and harbingers of Spinozism, claiming Spinoza's thought is a direct offshoot of that of Descartes. To Helvetius, Bontekoe with his

40 Bontekoe, *Vervolg*, p. 5v.

41 Dekker, 'Private Vices', p. 494.

42 Cook, 'Bernard Mandeville', p. 119.

43 Thijssen-Schoute, *Nederlands cartesianisme*, pp. 292–3; see also R. Krul, 'Bijdrage tot het leven van Johan Friedrich Schweitzer (Helvetius)', *Haagsch Jaarboekje 1893* (The Hague, 1893), pp. 4–32.

44 Krul, 'Haagsche en Amisfoortse krukkendans', pp. 18–20; Benedict de Spinoza, *The Letters*, trans. by S. Shirley (Indianapolis, IN, 1995), pp. 217, 325.

summons to throw away the old medicine altogether, seemed the very embodiment of the revolutionary tendency in Cartesianism. To him, whatever Bontekoe professed to be, he was no true member of the Reformed Church but a closet Spinozist and freethinking ally of the libertine Beverlandists.⁴⁵

According to Helvetius, not only was Cartesianism the seed-bed of Spinozism but Christian physicians, as well as scholars, had a duty to combat both varieties of thought.⁴⁶ For Christian piety, he contended, cannot be reconciled with the kind of all-embracing, systematic philosophical reason Cartesians apply to medical as well as religious, moral and social issues. Denouncing Bontekoe as a dogmatic philosopher-physician who will admit nothing he deems irreconcilable with philosophical reason,⁴⁷ Helvetius argued that Cartesianism, as reworked by Bontekoe, necessarily undermines belief not just in the Immaculate Conception, Incarnation, Holy Ghost, Trinity and the Resurrection, but in everything supernatural, wonderful, magical, alchemical and miraculous – including Creation, the resurrection of the dead, Satan, Heaven and Hell.⁴⁸ Bontekoe's views, he proclaimed, utterly destroy theology's pre-eminence in the world, ultimately yielding only chaos in religion, morality and medicine alike. Society should be based on God's Word and Revelation. But neither, charged Helvetius, is an authority in Bontekoe's eyes: for he himself openly states he acknowledges neither Scripture nor angels with respect to 'alle het geen dat strijdig is tegen de reden' [everything that conflicts with reason].⁴⁹

Bontekoe's sweeping medical reformism, objected Helvetius, was rooted in a quest to explain every illness and every change in a person's physical condition, in terms of natural reason and natural causes alone. His principle that all Nature's workings, including the motions of the sun, moon and planets, result from physical movements caused by other movements, one bringing about the next in a necessary but infinite sequence, and his modifications to Descartes, reduce all bodily states, and conditions of illness and health, including the duration of each individual life, to purely natural states to be understood exclusively in mechanistic terms. Bontekoe liked to scoff at Galenist 'humours'. But the real issue was that he left no room for Providence, or any supernatural agency, but rather transformed everything in medicine to pure mechanism.⁵⁰ Even plague epidemics, complained Helvetius, are classed by Bontekoe, in total disregard of Providence and divine punishment of the wicked, as part of the ordinary course of nature.⁵¹ Those who think thus, averred Helvetius, are 'ambassadeurs des antichristendoms Cartesii' [ambassadors of Descartes's anti-Christendom] and worse 'Vanninische Bontekoedistens en

45 Bontekoe, *Brief aen Jan Frederik Swetsertje, gesworen vyand*, p. 13.

46 Johann Friedrich Helvetius [Swetser = Schweitzer], *Adams oud graft, opgevult met jonge Coccei Cartesi-aenschen en Descartis Spinosi-stischen doods-beenders* (The Hague, 1687), p. 79.

47 Helvetius, *Adams oud graft*, pp. 40–1, 99, 216.

48 Helvetius, *Adams oud graft*, pp. 104–7, 116; Johann Friedrich Helvetius, *Dauids slinger-steen reden-matigh geworpen* (The Hague, 1682), pp. 112, 194–5.

49 Helvetius, *Dauids slinger-steen*, pp. 81–2, 125, 253.

50 Bontekoe, *Drie verhandeligen*, p. 7; Rink Vermij, *The Calvinist Copernicans: The Reception of the New Astronomy in the Dutch Republic* (Amsterdam, 2002), pp. 188–9, 213.

51 Helvetius, *Dauids slinger-steen*, p. 255.

Spinosistische Beverlandistens, ja een schuim van Aretinische Machiavellistens' [Vanninian Bontekoeists and Spinozist Beverlandists, yes a scum of Aretinian Machiavellians].⁵²

The height of impiety, according to Helvetius, 'dese Bontekoedistische Position' [Bontekoeist position], merging soul with 'thought', conflates the latter with body.⁵³ Bontekoe bitterly resented Helvetius' efforts to pin the blame for 'the Godforsaken Spinoza and his notorious disciples, the damned Beverland, the apostate P.v.B. and other such [...] on the shoulders of the Cartesians'.⁵⁴ But it was by no means only with medical Galenists and religious Voetians that Bontekoe collided. For his deriding the doctrine of the *glandula pinealis* which according to Descartes connects body and mind, and his emphasis on the mind's 'dependence' on the body, with moods and the condition of the mind being determined by bodily states, also antagonised those he calls the 'rigid' Cartesians. Moreover, like Geulincx, he held – against Descartes, the theologians and the Aristotelians – that extended substance is infinite, not finite, agreeing with Overcamp that motion is inherent in matter and that man's actions are all determined.⁵⁵ In fact, like Gabriel Wagner later, while continually invoking Descartes, 'our great mind' and 'Prince of Philosophers', Bontekoe at the same time repudiated key parts of his system.⁵⁶ He held that important modifications and 'a mass of experiments were needed' before Descartes's system could be completed and perfected.⁵⁷ Hence, among Cartesians too, there was some questioning of his sincerity in denouncing the 'sentimenten van den heyloosen Spinoza' [ideas of the damned Spinoza] who so scandalously identified body and mind as one.⁵⁸ In fact, orthodox Cartesians, tended to class him with the 'Bastart-Cartesienanen' perverting and undermining true Cartesianism.⁵⁹

At The Hague, Bontekoe fought the obscurantism of the 'old sect' while simultaneously fending off those indignant at his modifications of Descartes. Plainly, in these circumstances he would have been harming himself to trumpet the fact that on such points as freedom of the will versus determinism, and motion inherent in matter, he stood closer to Spinoza than Descartes.⁶⁰ His opponents, though, were only too glad to point this out for him, Helvetius adding that such reticence was typical of his 'phariseesche hypocrisie'. Another adversary insisted that, whatever he claimed, the only 'Cartesianism' Bontekoe promoted was of the 'entirely godless sort Lodewijk Meyer peddles in his *Philosophia S. Scripturae Interpres*' (that is, anti-Scripturalism, one-substance Cartesianism and Spinozism).⁶¹

52 Helvetius, *Dauids slinger-steen*, p. 251.

53 Helvetius, *Adams oud graft*, pp. 254–5.

54 Helvetius, *Adams oud graft*, p. 19.

55 Thijssen-Schoute, *Nederlands cartesianisme*, pp. 217–18, 310–11.

56 Bontekoe, *Vervolg*, p. A4, D5v; Bontekoe, *Over de koortsen*, p. B2.

57 Bontekoe, *Over de koortsen*, p. B2.

58 Bontekoe, *Tractaat [...] benevens een kort discours*, pp. 199–200.

59 Bontekoe, *Vervolg*, dedicatie; Hans van Ruler, 'Calvinisme, cartesianisme, spinozisme', in G. Coppens (ed.), *Spinoza en het nederlands cartesianisme* (Leuven, 2004), pp. 23–7, here p. 23.

60 Bontekoe, *Vervolg*, pp. 300–1.

61 *Dialogue van een groote thee en tobacq suyper*, p. 47.

Cartesianism, held Bontekoe, had broken the mould of the past for the benefit of all men. For this reason, Cartesianism should, he says, be venerated no less than the Reformation itself, which to the Protestant Dutch was the greatest moral, scholarly and spiritual renewal since early Christian times. He even suggested (albeit doubtless in sarcastic vein) that the Devil – in whom opponents noted Bontekoe did not believe – had with artful malice brought Spinoza on the scene to spoil this new reformation ‘and ruin the good work of the Cartesians’. His aim had been to make them look foul exactly as at the time of the Reformation, Satan used Ian van Leyden, Knipperdolling and others. As the great Luther, ‘when asked what he thought of all that crowd at Münster, understood what had happened, saying the Devil had brought them into play to render the Reformation suspect to many’,⁶² so Satan had ‘brought his Spinoza onto the scene, disguised as a Cartesian, to ruin the Cartesians, as the outcome has shown’.⁶³ This ingenious literary parallel doubtless struck his adversaries as the very epitome of effrontery and hypocrisy.⁶⁴

After publishing his *Tractatus theologico-politicus* at Amsterdam in 1670, Spinoza had made it his task, observed Bontekoe, ‘to sow his perverse seed in secret; for which reason he left Rijnsburg for Voorburg, and finally moved to The Hague, presumably supposing he would find more scope there among the frivolous youth and other-worldly types who are often much inclined towards such evil, for his diabolical *politica* and other atheistic ideas; as indeed he succeeded in doing; and still today one finds his creatures in that place.’⁶⁵ One of these ‘creatures’ with whom Bontekoe turns out to have been particularly well acquainted, was Petrus van Balen (1643–90), a Spinozist from a prominent Utrecht family who for many years had been a Reformed preacher at The Hague. Van Balen who suffered from prolonged bouts of depression, and had university degrees in medicine as well as theology and jurisprudence, had interesting views on the revolution in medical knowledge as he understood it. Medicine and especially questions about the mind, soul and problems of melancholy and depression, always had a special significance for him as we see not least from the medical metaphors in his philosophical writing.⁶⁶

The medical issues that preoccupied him formed an important strand in his – for a time – close relationship with Bontekoe. The practical aim of his work on logic, his title – on the ‘improvement’ of one’s thoughts – alluding to Spinoza’s *Tractatus de intellectus emendatione* [On the Improvement of the Understanding], was to help readers improve the quality of their lives by eradicating harmful, inadequate ideas from their minds and learning to base their thinking on sounder principles.⁶⁷ Men must learn to examine all their views and beliefs, including the ‘mysteries of

62 *Dialogue van een groote thee en tobacq suyper*, p. 45; Bontekoe, *Brief aen Johan Frederik Swetzer*, p. 20.

63 Bontekoe, *Brief aen Johan Frederik Swetzer*, p. 20.

64 *Dialogue van een groote thee en tobacq suyper*, p. 45.

65 Bontekoe, *Brief aen Johan Frederik Swetzer*, p. 23.

66 Petrus van Balen, *De Vebetering der gedachten* (1684), ed. M.J. van den Hoven (Baarn, 1988), pp. 54–5, 57–8.

67 M.J. van den Hoven, ‘Petrus van Balen’ in Van Bunge *et al.* (eds), *Dictionary*, vol. 1, pp. 44–5.

the faith', employing strict criteria.⁶⁸ If many are troubled by the conflicting claims encountered in a land such as Holland where a bewildering array of churches all strive 'with every sort of explanation to relieve people of their blindness in the matter of the mysteries', the only answer is for people to learn to think critically and judge for themselves. Men require sound logic for this, just as they do for judging truth or falseness in the natural sciences.⁶⁹ For in something as vital as redemption no one should trust the claims of others unless convinced by sound arguments.

Van Balen compares the reform programme he advocates in logic, philosophy and Bible criticism, to the dramatic advances he believed had already been achieved by medical reformers like Bontekoe and Overcamp. Basic to his argument, as generally in Spinozistic thought (and in Bontekoe), is the idea that human awareness is originally infantile, then childish, and only finally begins to mature towards clear critical thought. It is through thinking childishly that men formerly considered all natural forces and spirits to have bodies, like men or animals; and it is through emancipating ourselves from childish notions, thanks to philosophy, that we can know that the only bodies that really exist are visible and tangible ones, though sometimes we see them only with the aid of instruments. Whatever is altogether invisible, therefore, is not a body. Van Balen ascribes to the immaturity of men's thoughts all willingness to believe that unseen forces are in some way higher and more real than the bodies they do see, and then to appeal to supposedly uniquely inspired seers to communicate to them the allegedly higher knowledge concerning invisible forces to which such prophets and oracle priests claim to have access.⁷⁰

Until recently, 'medicine was highly imperfect', claims Van Balen and even the best doctors relied on their own experience and the effects of particular drugs and herbs.⁷¹ Recent dramatic changes in medicine, however, resulting from men's thirst for knowledge, breaking all barriers, had revealed the functions of the various organs of the body, and the movement, circulation and purposes of the body's fluids. As a consequence, he optimistically believed, men now possessed sound knowledge of the causes of sickness and health, of the causes of illness guiding us to the correct methods of treatment and 'why these or those things are useful for restoring health'. Such a 'revolution' as had already occurred in medicine, he says, was also now needed in the art of thinking which, however, 'has few enthusiasts and even fewer masters' and consequently was not yet anywhere near so far advanced, or so he thought, as medicine.⁷²

Bontekoe, Overcamp, Michael Mandeville and Van Balen shared in a new kind of proudly 'scientific' medical-philosophical culture which shaped the intellectual context into which not a few of the medical students of such leading scientific lights

68 Van Balen, *Verbetering*, p. 51.

69 Van Balen, *Verbetering*, pp. 51–2; W.N.A. Klever, *Mannen rond Spinoza (1650–1700): Presentatie van een emanciperende generatie* (Hilversum, 1997), p. 191.

70 Van Balen, *Verbetering*, pp. 59–60; Klever, *Mannen rond Spinoza*, pp. 193–4.

71 Van Balen, *Verbetering*, p. 54.

72 Van Balen, *Verbetering*, pp. 54–5, 57.

of Leiden as Burchardus de Volder (1643–1709) and later Boerhaave,⁷³ came to be drawn. This new medical-philosophical culture meanwhile was also spreading to other parts of Europe, the books of Bontekoe and Overcamp, for instance, being repeatedly reprinted in German translation.⁷⁴ In this way they became integral to the German medical battles of the era, one of Bontekoe's German translators, for instance, being Johann Peter Albrecht (1647–1724), city physician of Hildesheim, while his keenest Baltic disciple in matters of medical reform, Junusz Abraham Gehema (1647–1715), figured among the most vehement opponents of blood-letting and purging in northern Germany.⁷⁵ Bernard Mandeville, interestingly, knew Boerhaave as a fellow medical student and disciple of De Volder, at Leiden around 1689–90, when both youths defended their theses.⁷⁶ He then went on to emulate his father, and philosophically also his principal teacher, De Volder, in opting for a comprehensive medical reformism based on a purely mechanistic general philosophy. As a practising doctor, Mandeville also subsequently helped spread this remarkable culture of Dutch radical 'medical revolution', with its fiercely republican and anti-clerical attitudes, to London.

De Volder was, without question, a key architect of the new Dutch academic scientific culture, someone who had known Spinoza, taught Boerhaave, and was famed for his attachment to experiment and scientific empiricism. However, he was not an empiricist in the English manner, or a follower of Boyle or Locke; for he advocated empiricism within a rigorous framework of stripped down one-substance Cartesian mechanism, entailing a system which effectively excluded all appeal to theology and theological concepts.⁷⁷ Mandeville's published Leiden university thesis, *Disputatio philosophica de brutorum operationibus* (Leiden, 1689), presented 'sub presidio B. de Volder' and dedicated to his father 'Do Michaeli de Mandeville, apud Rotterdameses artis medicae practico expertissimo',⁷⁸ with its ringing Cartesian credo – 'praeter cognitionem, e extensionem nulla datur substantia'⁷⁹ – was written, he tells us, in an atmosphere of fierce ideological conflict: 'I have observ'd as much hatred and animosity between the Aristotelians and Cartesians when I was at Leiden',

73 Wim Klever, 'Herman Boerhaave (1668–1738) oder Spinozismus als rein mechanische Wissenschaft des menschen', in H. Delf *et al.* (eds), *Spinoza in der europäischen Geistesgeschichte* (Berlin, 1994), pp. 79–80, 90.

74 Munt, 'Impact of Dutch Medical Authors', pp. 223–8.

75 Munt, 'Impact of Dutch Medical Authors', pp. 225, 227.

76 Cook, 'Bernard Mandeville', p. 118.

77 Henri Krop, 'Medicine and Philosophy in Leiden around 1700: Continuity or Rupture?', in Wiep van Bunge (ed.), *The Early Enlightenment in The Dutch Republic, 1650–1750* (Leiden, 2003), pp. 186–95; Gerhard Wiesenfeldt, 'Burchard de Volder', in Van Bunge (ed.), *Dictionary*, vol. 2, pp. 1041–2.

78 'To Master Michael de Mandeville, the most skilled practical physician of the art of medicine in Rotterdam'. Michiel Wielemans, *Filosofen aan de Maas* (Baarn, 1991), pp. 69–70; Israel, *Radical Enlightenment*, pp. 623, 736.

79 'Other than thought and extension there is no other substance'. Bernard Mandeville, *Disputatio philosophica de brutorum operationibus* (Leiden 1689), p. 4.

he remarked, in 1711, 'as there is now in London between High Church and Low-Church.'⁸⁰

Mandeville was shaped by Dutch philosophical debate. There is no doubt that he was a radical republican politically, whose youthful activism in Rotterdam in the riots of 1690 obliged him to leave Holland in the early 1690s.⁸¹ Influenced as he was by De Volder and Bayle, as well as Spinoza, the brothers de La Court and Descartes, he was keenly aware that atomist Epicurean and Lucretian forms of 'atheism' in European thought were now giving way to an entirely different kind, remarking in the *Fable of the Bees* (1714) that 'this doctrine [purely mechanistic, hylozoic atheism], which is *Spinosisism* in epitome, after having been neglected many years, begins to prevail again, and the atoms [of Epicureanism] lose ground: for of Atheism, as well as Superstition, there are different kinds, that have their periods and returns'.⁸² Mandeville the physician and writer was well versed in the intricacies of Dutch philosophical faction-fighting, and was perhaps the first western thinker to develop a coherent, purely secular, conception of society. But if he was a great innovator as a social theorist, was he also a radical reformer in medicine?

Mandeville's London clique, around the time the young Benjamin Franklin met him in 1725, regularly gathered, it seems, in an ale-house in Cheapside. In his *Autobiography*, Franklin, who was introduced to Mandeville by a 'surgeon' named Lyons, an acquaintance of Pemberton, the prominent expositor of Newtonianism, terms this Cheapside group a 'club' and remarks that Mandeville himself was its 'soul, being a most facetious, entertaining companion'.⁸³ While practically nothing is known about this circle, quite a lot can be gathered about Mandeville's medical reformist philosophy from his published works, it being especially clear from his main contribution to medical literature, *A Treatise of Hypochondriack and Hysterick Passions* (1711), that he fiercely rejected all traditional and prevailing general doctrines and systems in medicine as useless and completely 'fallacious', along with purging and most traditional remedies, that he was a great foe of 'fashion' in medicine, and that for him observation and empiricism are the only worthwhile guides for treating illnesses. It seems he had a special interest in 'melancholy', hysteria and hypochondria, adopting a purely materialist approach to these kinds of sickness, fairly clearly rejecting all notion of the immateriality and immortality of the soul. Interestingly, he was unimpressed with Thomas Willis who, though 'a physician of great note', 'indulged speculation in physick as far as his imagination could carry him'. Willis's 'hypotheses', he grants were among the most ingenious of the age: 'what a pity it is they won't cure sick people'.⁸⁴

80 Bernard Mandeville, *A Treatise of the Hypochondriack and Hysterick Diseases* (London, 1711; 3rd edn, London, 1730), p. 126; D.H., Monro, *The Ambivalence of Bernard Mandeville* (Oxford, 1975), p. 55.

81 Dekker, 'Private Vices', pp. 488, 494–5.

82 Bernard Mandeville, *The Fable of the Bees*, ed. F.B. Kaye, 2 vols (Indianapolis, IN, 1988), vol. 2, p. 312.

83 Benjamin Franklin, *Autobiography*, ed. L.W. Laboree *et al.* (New Haven, CT, 1964), p. 97; Dekker, 'Private Vices', pp. 487–8.

84 Mandeville, *A Treatise*, pp. 98, 111.

Whatever is good in medicine, holds Mandeville, 'is only attain'd by an almost everlasting attendance on the sick, unwearied patience, and judicious as well as diligent observation.'⁸⁵ Ceaseless care and long clinical experience are vital in a good doctor but they are not everything. The ordinary empiricism of the (in his view) justly scorned 'empiricks', for example, he scorns as quite useless. What was required is completely to dismantle the wall of separation dividing theoretical science from clinical experience. The new medicine must learn to combine arduous observation with 'university-learning' in physics, astronomy, botany, chemistry, disease-classification and logic, making possible reliable but cautious extrapolation.⁸⁶ Thus, he believes, observation shows there is some intermediary between mind and the muscles, perhaps a very fine juice or fluid acting between the mind and other organs, activating and driving them, though as to whether there really exists a distinct class of 'Animal Spirits', he did not

insist upon it and only made use of the name to express the instruments of motion and of sense, whether there were or were not animal spirits, as are commonly allowed; or whether the nerves perform'd this by any motion undiscoverable by us, or by any juice, or spirit, or aether, or whatever it be.⁸⁷

Mandeville cites Le Boe Sylvius, Craanen and also Bontekoe among the outstanding medical empiricists of the immediate past, albeit where the first was 'a man of candour', Craanen and Bontekoe he deems excessive 'wranglers' and disputers.⁸⁸

Because patient observation and careful tending of relatively few patients is the only way the physician can assist the afflicted, there is a ceaseless tension in society between doctors' financial interests, and also fashion, and the veritable requirements of good healthcare.⁸⁹ Mandeville's insistence on breaking down the barriers between theory and practice explains his concern with what he saw as the highly the unsatisfactory relationship between the London College of Physicians, other doctors, surgeons and apothecaries, and likewise his deep suspicion of the gentlemen of the College. Significantly, he was also inclined, in his *Modest Defence of Publick Stews* (1724), to mock the gentlemen of the Societies for the Reformation of Manners whose pious campaign against 'strolling damsels' he thought entirely ineffectual in curbing either prostitution or the spread of venereal disease.⁹⁰ Like Bontekoe, he was also scathing about the shortcomings of the apothecaries as a profession, being particularly outraged by druggists' overcharging, supplying unnecessary medicines, and concocting useless compounds with impressive sounding Latin names; generally,

85 Mandeville, *A Treatise*, p. 35.

86 Mandeville, *A Treatise*, pp. 31, 33–7, 290.

87 Mandeville, *A Treatise*, pp. 33, 35, 37, 162–6, 225–6; G.S. Rousseau, 'Mandeville and Europe: Medicine and Philosophy', in I. Primer (ed.), *Mandeville Studies* (The Hague, 1975), p. 17.

88 Mandeville, *A Treatise*, pp. 58, 93.

89 E.J. Hundert, *The Enlightenment's Fable: Bernard Mandeville and the Discovery of Society* (Cambridge, 1994), pp. 5–6.

90 R.I. Cook, ' "The Great Leviathan of Lechery": Mandeville's *Modest Defence of Publick Stews* (1724)', in Primer (ed.), *Mandeville Studies*, pp. 24–7.

both Bontekoe and Mandeville consider it far better, both for patients' health and their pockets, that doctors should prepare their own prescriptions.⁹¹

Also reminiscent of Bontekoe, the 'medicines I give', as Mandeville puts it, were mostly to be 'taken in coffee, tea, wine, fair water, or other liquors that are familiar to the patients and generally to be had at their houses.' He wanted doctors to reduce 'the vast heaps of compounds contain'd in the dispensatories, to a moderate number' keeping 'only a few choice remedies of known efficacy'.⁹² Regarding blood-letting, purging and sweating, though, he adopts a much more moderate position, retreating from the outright rejectionism of Bontekoe and Overcamp:

it is with [purging] as it is with bleeding: they have all of them at times done infinite service, and given relief to a miracle, in acute as well as chronick diseases, yet they often do hurt, and sometimes kill the patient; tho' the indications seem to be the same. It is in these streights, and the difficulty of judging rightly, that we want assistance.⁹³

Finally, Mandeville judged that improving the bodily condition of the depressed, morbid, hypochondriac and hysterical through exercise and appropriate drugs could often mitigate these mysterious and recalcitrant illnesses which however, he concluded, are often wholly or partly incurable.⁹⁴ 'Exercise, which without doubt makes a great consumption of the Animal Spirits, not only creates appetite and helps digestion, but likewise removes obstructions, invigorates the blood, and strengthens the whole body.'⁹⁵

Mandeville's naturalistic, mechanistic and deterministic philosophy of medicine, with its strong empirical emphasis, in other words exactly resembles his uncompromisingly naturalistic theory of society. Hence, experience also teaches us, he thought,

that our having either delightful, or else troublesome dreams, is not a thing so fortuitous, as the generality of people imagine; and it is demonstrable that it depends immediately upon the tone and contexture of the spirits, and consequently in a great measure upon the disposition of the body: overloading the stomach at night, even when we are in health, often influences our dreams, and makes the fancy uneasy.⁹⁶

No doubt there were other local 'clubs' around northern Europe like Mandeville's. But it was especially through the widely celebrated medical teaching of Hermann Boerhaave, the most famous exponent of a purely mechanistic medicine in early-eighteenth-century Europe, and the influx of foreign students drawn to Leiden by him, that networks of medical men steeped in the radical medical culture absorbed

91 Mandeville, *A Treatise*, pp. 283–93, 297–302, 348–9; Cook, 'Bernard Mandeville', p. 122.

92 Mandeville, *A Treatise*, pp. 350–1; he praises the German physician Daniel Ludovicus for sharing this view.

93 Mandeville, *A Treatise*, pp. 194–5, 370.

94 Cook, 'Bernard Mandeville', pp. 119–20; Rousseau, 'Mandeville and Europe', pp. 15–16.

95 Mandeville, *A Treatise*, p. 166.

96 Mandeville, *A Treatise*, pp. 233–4.

from late-seventeenth-century Dutch Spinozist and 'left' Cartesian circles, spread across northern Europe. Certainly, Boerhaave himself was always prudent and studiously careful with his international academic reputation. Whatever his private views, publicly he invariably adhered to thoroughly respectable religious and general doctrines and middle of the road empiricist positions. Furthermore, religiously conservative Enlightenment figures, like the famous Albrecht von Haller (1708–77), clearly figured among his most important students. Nonetheless, it remains true that in some cases his students absorbed and reworked his legacy in a radical direction. This phenomenon is most famously exemplified by La Mettrie who delivered by far the most vehement and 'most concerted attack' on the French medical profession (and on the faculty of medicine of the Sorbonne) of his age;⁹⁷ culminating in his *Politique du médecin de Machiavel* (1746) and *La Faculté vengée* (1747), but who in this respect (if in no other) was far from being alone.

A physician from a middle-class family of Saint-Malo in Brittany, La Mettrie was quite emphatic that Holland, and in particular Leiden, where he was a medical student under Boerhaave in the years 1733–4, was the context 'qui me forma',⁹⁸ that is that shaped him intellectually. Although he was later rejected by Diderot and d'Argens for deviating in moral philosophy and social theory (where he is an Epicurean) from the kind of hylozoic radicalism they represented,⁹⁹ his metaphysics, theories of the body and soul, and epistemology are genuinely Spinozistic. Thought is as much a biologically derived feature of bodies, for La Mettrie, as any other.¹⁰⁰ No less important for understanding the spread of radical medical thought in the eighteenth century is the fact that he derived his Spinozistic conception of medicine, with his claim that the good doctor requires a thorough grasp of chemistry, botany, zoology, physics and especially physiology, directly from his Leiden experience, especially Boerhaave's teaching. In the late 1730s and early 1740s he emerged as the foremost promoter and interpreter of Boerhaave's medical works into French, his contribution here including, among much else, his translation of and notes on Boerhaave's *Institutions de médecine* (Paris, 1740) and of his *Aphorismes sur la connaissance et la cure des maladies* (1745). It was in his review of the former, in the *Göttingische Zeitungen von gelehrten Sachen*, in June 1745, where Haller accuses La Mettrie of plagiarising from himself, which signalled the start of the open warfare between these two rival claimants to Boerhaave's legacy.

Boerhaave's solidly empirical and systematically mechanistic medical teaching certainly shaped La Mettrie's own practice as an army physician and, together with Spinozist metaphysics, inspired the in some respects innovative muscular and physiological materialism he so sensationally deployed against both his philosophical and medical opponents. Disgraced in France in 1746, owing to the scandal arising from his atheistic and materialist views, and expelled from the crack

97 K. Wellman, *La Mettrie: Medicine, Philosophy and Enlightenment* (Durham, NC, 1992), p. 48.

98 Aram Vartanian, *La Mettrie's L'Homme machine* (Princeton, NJ, 1960), p. 6.

99 On this, see Israel, *Enlightenment Contested*, pp. 803–13.

100 Jean Ehrard, *L'Idée de nature en France dans la première moitié du XVIIIe siècle* (Geneva, 1981), pp. 234–8.

regiment of guards where he had been regimental physician since 1742, as well as dismissed from his subsequent function as an inspector of military hospitals in French-occupied Flanders, La Mettrie fled France and returned to Leiden for nearly two years (1747–8) before being compelled to flee Holland too and seek refuge at Frederick the Great's court in Berlin.

His feeling persecuted in France and Holland, however, only intensified the antagonism between him and those more conservative medical opponents who insisted on interpreting Boerhaave as someone who had remained in some sense loyal to Cartesian dualism, acknowledging two substances rather than one, and whose empiricism, like Locke's, eschews materialism.¹⁰¹ The public feud between the circle of Albrecht von Haller, professor of medicine at Göttingen, and La Mettrie who was then (and remained for a while after his premature death by food-poisoning in 1751), better known in Holland and Germany than Diderot, over how to interpret Boerhaave's contested legacy, was essentially a continuation of the conflict between the Radical and the moderate Medical 'Enlightenments'.¹⁰² From 1748, the clash between Haller and La Mettrie grew extremely bitter with La Mettrie openly taunting Haller and deriding his Christian integrity, styling him as 'le vil gazetier de Goettingen', despite the undoubted similarity of many of their views on the physiology of muscles and organic functions.

A weak point of Boerhaave's system had been his inability to account for the spontaneous contraction of muscles, including the heart. Haller, on the basis of detailed empirical experiments, claimed (here against both Boerhaave and La Mettrie), that the motions of muscles derive from an imparted initial force, or 'irritability' which, rather like Newtonian gravity, functions mechanically but to which no evident mechanical cause can be assigned and about the nature of which Haller declined to speculate.¹⁰³ La Mettrie's theory of muscular 'irritability' which appears to have been only partly derived from Haller's research, was largely identical except that his muscular 'irritability' is inherent in the individual self-activating fibres of organic matter; La Mettrie then employed this concept as the basis of his purely materialist philosophy of the body's functions.¹⁰⁴

La Mettrie's notion of medical reform was nothing if not wide ranging and his medical doctrines, like those of Overcamp, Bontekoe, Mandeville and Boerhaave, uncompromisingly mechanist and empiricist in character. Moreover, also like Overcamp, Bontekoe and Boerhaave, in developing his materialist conception he showed the same tendency eclectically to combine strands of iatromechanism, iatrochemistry and anything else that came to hand (even on occasion Galen). Though he usually accords primacy to mechanism, the main issue for him was to account, by whatever means, for all the apparent results of experiment and observation purely

101 Vartanian, *La Mettrie's L'Homme machine*, pp. 81–7; Wellman, *La Mettrie*, p. 61.

102 P. Lemée, 'Introduction' to [La Mettrie], 'Réponse à l'auteur de la machine terrassé', in *Corpus. Revue de philosophie* 5/6 (1999): 150–6; Wellman, *La Mettrie*, pp. 84, 256.

103 J.P. Wright, 'Medicine and Physiology', in Alan Kors (ed.), *Encyclopedia of the Enlightenment*, 4 vols (Oxford, 2003), vol. 3, p. 49.

104 Wright, 'Medicine and Physiology'; Vartanian, *La Mettrie's L'Homme machine*, pp. 82–7, 103–4, 201–2; Wellman, *La Mettrie*, p. 123.

in terms of physical explanations.¹⁰⁵ Where for most eighteenth-century physicians (and philosophers) neither the causes of disease, nor bodily and mental states, could be wholly reduced to physical causes, for La Mettrie, as with the rest of the Radical Medical Enlightenment, all medicine is *a priori* reducible to physiology, physics and chemistry.

At the heart of his reform programme was his abhorrence of traditional metaphysical, spiritual, magical and moral notions applied to medicine, and his unfailing insistence that medical teaching in universities and elsewhere should be drastically revised and renewed on the basis of up-to-date physiological and scientific knowledge. Characteristic also was his awareness of issues of sickness-prevention, hygiene and general bodily care, and his contempt for status, privilege and tradition in regulating relations between university-trained physicians and surgeons. His writing indeed reveals a deep suspicion of (especially French) professional bodies wherever they seemed disposed to defend, or tolerate, inadequate practitioners and teaching. Medicine, for him, is not just about curing the ailments of individuals but, as with Van Balen, Bontekoe and Overcamp, still more about improving society and healthcare as a whole and creating a better life for all.¹⁰⁶ There were also, of course, points where he significantly diverges from the medical reformism of Bontekoe and Overcamp. In particular, La Mettrie, despite his fiercely critical attitude to most traditional medical practices, approved of blood-letting as a remedy, recommending bleeding as a means to counter a wide variety of sicknesses and symptoms – including smallpox and other dangerous fevers, inflammation, swellings and convulsions.¹⁰⁷

Meanwhile, long before La Mettrie's flight to Berlin, Spinozistic cells had crystallised in various other towns of Germany, and there too Spinozistic philosophy became intimately entwined with radical medical reformism and Boerhaave's medical legacy. Altona, a suburb of Hamburg under Danish jurisdiction, and the second city of the Danish monarchy after Copenhagen, is a case in point. Since the early seventeenth century, Altona had acquired a special significance as a haven for religious and intellectual deviants of all kinds owing to its being located outside the jurisdiction of the Holy Roman Emperor as well as due to the locally flexible religious policies pursued by the Danish authorities.¹⁰⁸ A city of some 20,000 inhabitants in the mid eighteenth century, it was a place where one encountered not only Remonstrants, Catholics, Jews and (prudent) Socinians but also radical intellectuals expelled from other parts of Germany. Among the latter, were Lau, Edelmann and Johann Lorenz Schmidt (1702–49), author of the deistic and naturalistic 'Wertheim Bible', the anonymous publication of which in 1735, had caused a tremendous scandal throughout Protestant and Catholic Germany, a scholar who, after his flight from the Emperor's jurisdiction, lived in Altona under an assumed name from 1737.

105 Wellman, *La Mettrie*, pp. 52–9; Stefan Winkle, *Johann Friedrich Struensee: Arzt, Aufklärer und Staatsmann* (Stuttgart, 1989), pp. 285, 308 n.50.

106 Wellman, *La Mettrie*, pp. 58–9.

107 Wellman, *La Mettrie*, pp. 94–5, 98.

108 Joachim Whaley, *Religious Toleration and Social Change in Hamburg, 1529–1819* (Cambridge, 1985), pp. 35–6, 81–2, 161, 163.

For part of the time that Schmidt lived in Altona he is known to have lodged in the house of a Dutch-trained Jewish doctor, David Gerson, who had completed his medical studies in Utrecht in 1734 and become a passionate admirer of both Spinoza (copies of whose *Tractatus theologico-politicus* and *Ethics* he kept in his house) and Boerhaave.¹⁰⁹ In fact, it was in Gerson's house, in the years 1742–4, that Schmidt, presumably using Gerson's copy, translated into German and prepared for publication Spinoza's *Ethics*, producing a highly competent rendering which remained for a very long time the only version of that masterpiece available in any modern vernacular language other than Dutch. Gerson's son, Hartog (Hirsch) Gerson (1730–1801), likewise a disciple of Spinoza,¹¹⁰ and a great enthusiast for medical research using microscopes, later, in the 1760s, formed a working alliance in the hospitals and charitable institutions of Altona with the famous medical and general reformer who in the 1760s was also Altona's 'city physician', Struensee. Probably it was he, moreover, who first introduced Struensee to Spinoza's works. Indeed, the working alliance between Struensee, Gerson and other Altona radicals can be said to have developed into the most sensational 'Spinozistic' attack on the existing order in Europe of the entire eighteenth century.

Son of the theologian, Adam Struensee, who eventually rose to become Lutheran superintendant-general of Schleswig-Holstein, Johann Friedrich von Struensee (1737–72) studied medicine at Halle in the years 1752–7. It was apparently also at Halle that he first became a devotee of the *encyclopédistes*, a follower of Diderot's materialism and neo-Spinozism, and an enthusiast for the medical reformism of La Mettrie,¹¹¹ as well as, in educational matters, for Rousseau. He moved to Altona with his parents in 1757, and from then on stood out as the leader of the 'enlightened' clique of Altona doctors, proclaiming as his guiding maxim that nowhere are superstition and prejudice more harmful to Man than in the field of sick-care.¹¹² At a time when it was in no way usual for Jewish doctors to be accorded equal status with Christian doctors, Struensee proclaimed it irrelevant whether a doctor, as he put it in 1760, 'Jude oder Christ oder keines von beiden ist, wenn er nur stets in dem Kranken einen leidenden und Hilfe bedürftigen Menschen sieht.'¹¹³ In matters of healthcare, the medical authorities in Altona should proceed, he urged, without regard to the confessional status of patients, learning to think rather about the health condition of the population as a whole.

109 Stefan Winkle, *Die heimlichen Spinozisten in Altona und der Spinozastreit* (Hamburg, 1988), pp. 59, 121; Stefan Winkle, 'Johann Friedrich Struensee und das Judentum', *Jahrbuch des Instituts für Deutsche Geschichte* (Tel Aviv) 15 (1986): 9–10.

110 Winkle, 'Johann Friedrich Struensee und das Judentum', p. 13; Winkle, *Heimlichen Spinozisten in Altona*, pp. 60, 63, 65, 69–70.

111 Winkle, *Johann Friedrich Struensee. Arzt*, p. 65.

112 Winkle, 'Johann Friedrich Struensee und das Judentum', p. 5; John Christian Laursen, 'Spinoza in Denmark and the Fall of Struensee, 1770–1772', *Journal of the History of Ideas* 61 (2000): 194.

113 'Is he a Jew or Christian or neither of these, when he stands at the bedside of a sufferer and sees a person needing help'. Winkle, 'Johann Friedrich Struensee und das Judentum'. p. 6.

Together with other medical men, notably Hartog Gerson who dined regularly with him, Struensee strove to reform healthcare in the city in practically every respect, often along lines prescribed by Boerhaave but already pioneered by Boerhaave's Dutch predecessors. In 1763, he helped Gerson establish a Jewish hospital where poor Jews could stay and receive free treatment. But as a reforming physician, he was above all concerned to counter the prevailing traditional culture of health regulation and resistance to new techniques. The initial period of his practice in Altona coincided, in 1759, with a resurgence of smallpox (*Seuchenwelle*) in the Hamburg area, as also across Denmark and Sweden. Struensee made a point of trying to combat the heavy 'sweating' method and other 'remedies' customarily resorted to in dealing with smallpox cases, arguing that this ancient, entrenched practice of driving up the temperature of fever patients to the maximum was more apt to kill than cure them. With the help of several preachers, he sought to publicise a general warning that in summer not too many blankets should be heaped on patients and the windows should be left partly open to let in fresh air, while in winter stoves should only be moderately heated up.¹¹⁴ Far preferable to the 'sweating' technique, he insisted, were cool washes. He was also an early and active advocate in northern Germany of smallpox inoculation.

At the same time, Struensee's and Gerson's medical reformism was suffused with Spinozist philosophy.¹¹⁵ Gerson, who was also knew Lessing, considered himself to be more than a doctor, indeed to be a *philosophe* and social reformer.¹¹⁶ But it was especially Struensee's ambition to extend their ardent reformism far beyond the world of medicine to society and politics more generally. In 1763, he established at Altona his own journal, the *Monatsschrift zum Nutzen und Vergnügen* which, however, was soon suppressed by the Hamburg Senate, prompted by the clergy, led by the same pastor, Johann Melchior Goeze who in the 1760s led the opposition to extending toleration of the Jews in Hamburg. Struensee's journal was targeted as a publication disrespectful towards both religion and secular authority.

Nevertheless, Struensee won a unique opportunity to initiate a 'revolution' encompassing all of society. His first stepped onto a wider stage by forming ties with a group of noblemen susceptible to enlightened ideas and broadly opposed to the policies of the court at Copenhagen. These men, notably Enevold Brandt and Count Schack Carl Rantzau, managed to secure him a position as one of the royal travelling physicians during King Christian VII's foreign tour to Hanover, Paris and London during 1768. On the king's return to Copenhagen, the adept Struensee became the king's personal physician and soon acquired a dominant influence over the mentally increasingly unstable and incapable young monarch. By January 1770 he had also notoriously become the lover of the eighteen-year-old queen, Caroline Matilda, a sister of the king of England. By September 1770 his ascendancy over the royal pair was such that, despite his knowing scarcely a word of Danish, he was proclaimed

114 Stefan Winkle, 'Struensee, der lange verpönte und verkannte kontagionistische Pionier auf dem Gebiet der Seuchenprophylaxe', Internetausgabe 2003 Collasius, 34 pp., here pp. 7–8.

115 Winkle, *Die heimlichen Spinozisten in Altona*, pp. 54–6.

116 Winkle, 'Johann Friedrich Struensee und das Judentum', p. 14.

chief minister of the crown and given virtually unlimited power over the then rigidly absolutist monarchy of Denmark-Norway-Schleswig-Holstein, power which he exercised for sixteen astounding months.

Having already alienated much of the court and nobility, he rapidly offended most landowners, the Lutheran Church and respectable opinion generally. Reforming decrees flowed thick and fast from his office couched in his own German prose. He abolished judicial torture and capital punishment for theft, introduced numerous economic and financial reforms, tried to improve parish poor relief, made a start on dismantling serfdom,¹¹⁷ and sought to reduce the number of public officials and curb sinecures and other forms of court corruption. However, the most important and also the most typically Spinozistic of his reforms (not fully reversed by Danish conservatism until 1799) was his introduction, in September 1770, of unrestricted liberty of the press and free speech throughout Denmark and its dependent territories (Norway, Schleswig-Holstein, Greenland, Iceland, the Faroes and the Danish Antilles) on grounds for which he had been arguing since at least 1764, which were essentially those formulated in Spinoza's *Tractatus theologico-politicus*, namely that comprehensive freedom of thought and expression benefit society, promote the 'common good' and encourage scholarship and science.¹¹⁸ Denmark-Norway was in fact the very first country, in the history of the modern world, to proclaim freedom of the press as a desirable principle.

Since Struensee justified his unprecedented reformism on grounds of 'philosophy', it was natural that the opposition to his policies was philosophical as well as political. Spinoza's name was evidently as well known to the public in Denmark as in France, Germany and Holland, and Struensee's credibility and reputation quickly became vulnerable to being tarred with the brush of 'irreligion' and 'Spinozism', a process ironically facilitated by the very freedom of the press which he himself had just instituted on Spinozist grounds. Some conjectured that La Mettrie was the source of Struensee's atheistic physiology and metaphysics, others accounted for his materialism differently, but all stressed the 'atheistic' character of his thought, and often explicitly invoked Spinoza. One of the anti-Struensee pamphlets, the *Serious Observations on the Common Condition* (1771) analysed by the American historian, John Christian Laursen, charges that while irreligion had existed in Europe in the age of Bruno and Vanini it had been kept firmly under control; 'atheism' had only surged up dangerously since Spinoza, Collins, Tindal and other freethinkers had provided it with new intellectual weapons.¹¹⁹

Respectable Danish burghers had no quarrel, argues this pamphlet, with the Christian enlightenment of such well-meaning thinkers as 'Grotius, Pufendorf, Leibniz, Wolff, Locke, Newton, Boyle, Boerhaave, Haller and Hoffmann'; what was unacceptable was the atheistic philosophy and freethinking of the likes of Spinoza

117 William Doyle, *The Old European Order, 1660–1800* (Oxford, 1992), pp. 100, 229.

118 Stefan Winkle, *Struensee und die Publizistik* (Hamburg, 1982), pp. 81–7; Laursen, 'Spinoza in Denmark', pp. 190–1, 195; see also John Christian Laursen, 'David Hume and the Danish debate about Freedom of the Press in the 1770s', *Journal of the History of Ideas* 59 (1998): 167–72.

119 Laursen, 'Spinoza in Denmark', p. 196.

and Collins. Another anti-Struensee tract studied by Laursen, deplored the pernicious influence in Copenhagen of 'a French doctor' (that is, La Mettrie) and 'a Dutch Jew, Spinoza by name who in a thick tedious book in metaphysical Latin has tried to prove that all of nature is only one substance and that all parts of nature are only as many modifications of it'. Nevertheless, remarkably, this pamphlet was sufficiently candid (or struck by Bayle's remark to this effect) to admit that some of those who had read Spinoza and 'deny all religion' yet live more morally and 'show greater humanity than the rest who pretend to believe' in the Bible but do not in reality live by it.

Despite retaining the support of both king and queen, ecclesiastical, noble and burgher opposition was so intense after only a year or so that Struensee's position was seriously undermined. His power withered. Following an aristocratic *coup* in the capital, in January 1772, he was arrested (as was the queen) at Christianborg Castle and put on trial for high treason. Christian would have liked to save Struensee but the force of the general condemnation rendered this impossible. A German-language anti-Struensee pamphlet which appeared soon after his downfall denounced him as a 'naturalist born out of Spinoza's school', an atheist and lust-maddened sensualist who had utterly scorned the true God. Found guilty on all counts, that is of treason, irreligion and immorality, on 28 April 1772, he and his accomplice, Brandt, had their hands cut off and were then beheaded, after which their corpses were drawn and quartered.

Briefly Struensee became a statesman and a courtier, but in essence he was a reforming doctor who believed that a certain kind of philosophy was the key to revolutionising medicine and healthcare, and the key likewise to revolutionising society. Everywhere in Enlightenment Europe, Spinozism was publicly condemned in the harshest terms as an unacceptable and intolerable evil. Yet its impact and influence, at least in restricted and often semi-clandestine reforming circles, seems to have run wider and deeper than has generally been appreciated. In particular, this kind of philosophy seems to have played a key role in shaping the more radical wing of what was widely conceived, at least in the late seventeenth and eighteenth century, as a comprehensive science- and philosophy-based 'medical revolution'. If so, it may indeed now be possible to formulate a general theory of how and why the Radical Enlightenment, with its marked hostility to traditional religious norms and existing structures of authority, medical as well as religious and political, contended that a fundamentally transforming 'medical revolution' was both needed and in fact in growth.

Physicians and Surgeons in the Service of the Inquisition: The Nexus of Religion and Conventional Medical Training in Enlightenment-Era Portugal¹

Timothy Walker

The most intense period of ‘witch-hunting’ in Portugal (c. 1715–60) corresponds exactly with the period in which Portuguese physicians and surgeons were becoming more aware of rational scientific medical techniques being developed outside of Portugal.² The period also coincides with a time in which licensed medical professionals had become firmly ensconced in the ranks of the Holy Office in substantial numbers – particularly influential physicians and surgeons in Coimbra, the medieval university town that was home to Portugal’s only faculty of medicine.³ These circumstances are not mere coincidence.

The proclivity of the Portuguese Inquisition to prosecute popular healers during the eighteenth century was the result of a deliberate policy on behalf of medical professionals inside the Inquisition who, in combination with their ecclesiastical colleagues, acted on their concurrent compatible vested interests to discredit popular medicine and its practitioners, with the eventual goal of eliminating superstitious folk healing from the Portuguese realm.

1 All translations in this chapter are by the author unless otherwise stated.

2 See Ana Simões *et al.*, ‘The Scientific Revolution in Eighteenth-Century Portugal: The Role of the *Estrangeirados*’, Papers of the Third British North America Meeting (Edinburgh, 1996), pp. 4–11. The author wishes to thank the Instituto Camões, the United States Fulbright Commission and the Council for International Educational Exchange for providing the grants that made this research possible. For logistical support in Lisbon, Portugal, the author is grateful to the Arquivo Nacional do Torre do Tombo, the Biblioteca Nacional de Lisboa and the Academia das Ciências de Lisboa. The Wellcome Trust provided additional financial and academic support for this project, making possible additional research in London and participation in this conference.

3 See José Vieira Torres, ‘Da repressão religiosa para a promoção social: a Inquisição como instância legitimadora da promoção social da burguesia mercantil’, *Revista crítica de Ciências sociais* 40 (1994): 109–35.

The cadence of Inquisition trials for sorcery and witchcraft in Portugal increased dramatically at the end of the seventeenth century, reached a peak between 1715 and 1760, and dropped sharply after 1772. This chapter will focus on the role of physicians and surgeons who worked within the ranks of the Portuguese Inquisition to prosecute and discredit popular healers (called *saludadores* or *curandeiros*), who in eighteenth-century Portugal were tried under the centuries-old laws that condemned the practice of witchcraft and sorcery. During this period, in approximately 60 per cent of Holy Office trials in which the suspect was accused of a crime entailing the use of magic or superstitions, the culprit was actually a healer engaged in providing folk remedies to rural peasants and townspeople. Such cures relied on illicit acts of sorcery for their efficacy. These ‘witchcraft’ cases reflect an increasing intolerance for folk healers among the previously indifferent inquisitors and other elites, an intolerance that resulted in a policy of systematic oppression during the eighteenth century.

Significantly, this peak period of witchcraft persecution in Portugal coincided with a time when university-trained physicians and surgeons, or *médicos*, were entering the paid ranks of the Inquisition in unprecedented numbers, taking up employment as *familiares* (non-ecclesiastical employees of the Holy Office who often identified deviant members of society as potential subjects for an Inquisition investigation) to enjoy the enhanced status and privileges consequent to holding such a post. State-licensed physicians and surgeons, motivated by professional competition but also by a concern for promoting rationalised ‘scientific’ medicine, used their positions within the Holy Office to initiate trials against purveyors of superstitious folk remedies.

Thus, the persecution of *curandeiros* and *saludadores* reveals a conflict between learned medical culture and popular healing culture in late seventeenth- and eighteenth-century Portugal. This tension between popular culture and elite culture grew as the Enlightenment era advanced and rationalist ideas about medicine flowed into Portugal through unofficial channels (but frequently with the tacit consent of reactionary, orthodox state and church officials). Holy Office trials against magical healers, then, offer evidence that Enlightenment ideas about rationalised medical practices had penetrated the minds of learned elites in Portugal to such a degree that even the policies of the Inquisition changed to accommodate, and even promote, a more scientific approach to healing. In this rare instance, the Inquisition functioned as an instrument of progressive social change.

In terms of tone and intent, the Portuguese experience was unique; Inquisition authorities brought over 500 magical healers and sorcerers to trial between 1715 and 1770, but they did not execute a single one.⁴ Although some regions across Europe continued to prosecute small numbers of ‘witches’ throughout the eighteenth century, no country except Portugal experienced such a sizeable and sustained incidence of legal trials, centrally directed according to an explicit rationalist policy, against magical criminals at such a late date. The chronology of magical crimes trials

4 José Pedro Paiva, *Bruxaria e Superstição num País Sem ‘Caça às Bruxas’: Portugal 1600–1774* (Lisbon, 1997), p. 209.

in Portugal, occurring as they did simultaneously with a demonstrable awakening of interest in scientific investigation and natural philosophy in that country, makes these cases particularly interesting for scholars of the confrontation between Enlightenment sensibilities and popular superstitions.

These trials were part of a methodical suppression of popular medicine by the Inquisition – and the complicit professional physicians and surgeons who worked for the Holy Office – in Portugal during the eighteenth century. There was a conscious, deliberate and systematic movement by licensed *médicos* to discredit popular *curandeiros* and *saludadores* in the minds of common people and sow widespread doubt about traditional forms of healing. Further, in singling out popular healers for persecution, it is evident that many of these doctors were motivated by a genuine wish to effect rationalised scientific medical reforms; they were not simply trying to eliminate their professional competitors.

The majority of Holy Office cases against *curandeiros* or *saludadores* originated with the Inquisition tribunal located in the city of Coimbra. Further, the Coimbra tribunal's rate of persecution of popular healers began to rise sharply well before the tribunals in Évora and Lisbon began to pursue *curandeiros* more actively.⁵ The Holy Office's movement of prosecuting illicit healers, then, began in Coimbra, Portugal's seat of academic medical training.⁶

The Inquisition tribunal operating in Coimbra had, by the end of the seventeenth century, forged a profound and multi-faceted link with the Faculty of Medicine at the University of Coimbra, not only employing trained physicians and surgeons in the Holy Office prisons, but also using professional medical practitioners widely as informants and functionaries. Several prominent instructors of the Faculty of Medicine were in fact Inquisition *familiares*, as were many of their then-current and former students. Indeed, during the eighteenth century, the chief *médico* of the Inquisition prisons in Coimbra was also typically a Coimbra University professor of one of the medical disciplines.

In Portugal, the University of Coimbra and its environs provided the place where licensed practitioners of medicine would become most conscious of themselves as a distinct professional and social group.⁷ And yet, in this Jesuit-dominated institution where the medical curriculum had not changed in three centuries, forward-thinking physicians and surgeons found their desire for enlightened reform indefinitely

5 See Timothy Walker, 'Doctors, Folk Medicine and the Inquisition: The Repression of Popular Healing in Portugal during the Enlightenment Era', unpublished doctoral dissertation; Boston University, 2001, tables following Chapter 8.

6 These assertions point to *curandeiro* trials conducted in Coimbra between 1710 and 1714, the half-decade immediately prior to the forty-year period identified as the peak years of Portuguese witch-hunting. While it is true that the Évora tribunal demonstrated a strong inclination to prosecute *mágicos*, too, during the same half-decade, 1710–14, in none of those cases was the person tried a *curandeiro*. See Walker, 'Doctors, Folk Medicine and the Inquisition', tables, Chapter 8.

7 See Teophilo Braga, *História da Universidade de Coimbra*, vol. 2 (Lisbon, 1895), pp. 768–812. See also José Sebastião Silva Dias, 'Portugal e a Cultura Europeia: Séculos XVI a XVIII', *Biblos* 28 (1952): 280–99; and the article by Rocha Brito and Feliciano Guimarães, 'A Faculdade de Medicina de Coimbra', *Actas Ciba* 14 (n.d.).



Fig. 2.1. Main court, University of Coimbra (seventeenth century).

Home of Portugal's only faculty of medicine, this medieval university town also accommodated one of the country's three inquisition tribunals. State-licensed physicians and surgeons commonly held posts within both inquisitions.

stymied. By extension, then, it is logical that Coimbra would also be the location where medical practitioners would first come to see that popular healers constituted a serious philosophical, methodological and economic threat to their collective professional endeavours.

Having already established a link with the Inquisition – the strength of which kept growing as more licensed physicians, surgeons and barbers became *familiares* – medical professionals possessed a means at their disposal to act against this threat. Later, as the eighteenth century progressed and more Portuguese physicians and surgeons became aware (and enamoured) of the rationalised, scientific techniques being practised in other parts of Europe, they became motivated by more erudite reasons to discredit and drive out popular healers.⁸ Because Portuguese *médicos* were thwarted from instituting scientific medical practices through the University of Coimbra, one of their only avenues to promote modernisation lay in using the Inquisition to discredit popular healers, thereby advancing their case for the enlightenment reform of healing practices.

⁸ The argument describing these developments is presented in Walker, 'Doctors, Folk Medicine and the Inquisition', Chapter 3.

The State of Medical Teaching at the University of Coimbra during the Eighteenth Century

We have come to a period in which the history of medicine in Coimbra, and especially that of anatomy, cannot be known for anything except that it was decadent ... During this long period, of more than a century, the medical sciences slept through a long dream, enveloped in the densest possible ignorance.⁹

Throughout the seventeenth and much of the eighteenth centuries, professors of medicine at the University of Coimbra were reduced to intoning rote, undeviating recitations and commentary on the writings of the ancient and medieval medical authorities: Galen, Hippocrates, Rhazes and Avicenna. Even after the restoration of the Portuguese Crown in 1640, when pedagogical modifications following an eighty-year period of Spanish influence might have been expected, the teaching curriculum in the Faculdade de Medicina remained, with very few changes, virtually as it had existed throughout the 1500s.¹⁰

Until the enlightened Prime Minister Pombal's reforms of 1772 revitalised medical instruction at Coimbra, there was little in the way of practical training; medical lectures remained theoretical, as they had been for centuries. Even in the mid-eighteenth century, instructors performed human dissections extremely rarely (*rarissimamente*) because of the taboo associated with desecrating a Christian cadaver.¹¹ Bodies for educational dissection, when they could be obtained, usually had to be those of condemned criminals, preferably those of non-Catholics or known heretics.

At least one eighteenth-century Portuguese medical reformer spoke out in apology for those who had to work within this archaic system. João Mendes Sachetti Barbosa, a doctor of the Alentejo province who corresponded with expatriate colleagues (*estrangeirados*) and would later help create the uniquely progressive Royal Medical Academy of Oporto, excused the reactionary teaching habits of his mentors at Coimbra, arguing in 1756 that 'if they defend Galen and Avicenna, it is not because of their own inability or lack of better training, but out of, rather, an observance of the law and reverential respect for its statutes'.¹² The universities did harbour some men of science whose inclinations towards rationalised medicine were ahead of prevailing conservative sentiments in the upper echelons of the Portuguese Church, Inquisition and State, but instructors still had to acquiesce to regulations set by the Jesuits governing what they could teach. Indeed, Maximiano Lemos, Portugal's pre-eminent historian of medicine, has asserted that the state of medical

9 Maximiano Correia, *Subsídios para a história da anatomia em Coimbra* (Coimbra, n.d.), pp. 12–13.

10 Brito and Guimarães, 'A Faculdade de Medicina', pp. 555–56, cited in Dias, 'Portugal e a cultura Europeia', p. 368.

11 Brito and Guimarães, 'A Faculdade de Medicina', pp. 555–56, cited in Dias, 'Portugal e a cultura Europeia', p. 368.

12 João Mendes Sachetti-Barbosa, *Considerações médicas doctrinais sobre a metodo conhecer, curar e preservar as epidemias, ou febras malignas podres, pestilencias e contagiozas*, vol. 1 (Lisbon, 1758), p. xxvii (my translation).

science was more advanced outside the university, because of scientific treatises provided surreptitiously by *converso* or Jewish physicians who had emigrated to other parts of Europe, and because of information sent by colonists and missionaries overseas.¹³

It is not an inconsistency or contradiction, therefore, to suggest that innovative, enlightened Portuguese *médicos* should have been trained during the eighteenth century at the pedagogically conservative University of Coimbra. Nor should we think it strange that such broad-minded physicians and surgeons should have joined the ranks of the Inquisition. Other exigencies were at work at the time. Even after having been trained under outmoded Jesuit principles, Coimbra graduates were still subject to exterior professional influences. Some corresponded with 'foreignised' *estrangeirado* physicians; others were members of foreign learned societies; many read smuggled medical publications from France, Holland or England that demonstrated the effectiveness of scientific medicine. All of these activities were in keeping with the contemporary spirit of the *Época das Luzes* [Age of Light], in which many of these medical professionals – despite their archaic official training and insulated situation within Portugal – were active participants.

Even men who held posts on the Coimbra Faculty of Medicine could hold rationalist medical principles in high esteem, though they were restricted by the powerful Jesuits from teaching such concepts openly within the University. Examples were numerous of Coimbra graduates – and even some *lentes de medicina* (medical instructors) – who clearly favoured (and often wrote about) progressive medical developments outside the official university curriculum. This was particularly true during the third quarter of the eighteenth century, as the political and cultural mood across Portugal began to display more openness under a new royal regime.¹⁴

All the while, many of these same enlightened physicians and surgeons simultaneously became Holy Office functionaries, the valuable benefits from holding a *familiar's* post being highly desirable and frequently sought. For doctors influenced by *o Iluminismo* [the Enlightenment], working for the Inquisition evidently caused no professional impediment. Further, many licensed medical practitioners who joined the Inquisition were, again in concordance with the rationalist philosophy they espoused, engaged in the persecution of illicit healers. Yet they still were bound to respect the ancient traditions of their alma mater and the Mother Church, together with the more compelling royal laws that enforced the continuation of Coimbra's outdated curriculum.

The intellectually constrained situation within the *Faculdade de Medicina* would not change until the period between 1759 and 1772, when the Prime Minister Pombal

13 Maximiano Lemos, *História de medicina em Portugal: doutrinas e instituições*, 2 vols (Lisbon, 1991), vol. 2, pp. 59–154.

14 For notable examples, see Augusto do Silva Carvalho, 'Dicionário dos Médicos e Cirurgiões Portugueses ou que estiveram em Portugal', unpublished typescript with manuscript annotations, 32 volumes in the Biblioteca da Academia das Ciências de Lisboa, 1949?, vol. 2, p. 203 (Casimir de Costa Caetano); vol. 3, p. 24 (António Dias Inchado); vol. 3, pp. 113–14 (José Ferreira da Moura); vol. 5, p. 152 (Manuel Mendes de Sousa Trovão); vol. 6, p. 47 (António Nunes); vol. 8, p. 90 (Bernardo Silva e Moura); and vol. 8, pp. 170–71 (Inácio do Valle).

was powerful enough to suppress the Jesuits and reorganise the universities. Only at that time was every discipline taught at Coimbra thoroughly recast and given a state-prescribed curriculum, methodology and examination standards based on modern principles.¹⁵ In the medical field, this would entail the re-introduction of human dissection as the basis of anatomical study, as well as the adoption of up-to-date medical doctrines, including Harvey's teaching regarding blood circulation, Albinus's in anatomy, Van Swieten's in pharmacology and Boerhaave's in pathology. The study of hygiene as a preventative healthcare measure would, in accordance with Pombal's wishes, also be introduced at Coimbra in 1772.¹⁶ Before that date, however, many practising licensed *médicos* across Portugal had already begun to follow the currents of change from abroad that managed to reach their peculiarly peripheral country.

Prior to Pombal's reforms, the knowledge of disease diagnosis or of the pathology of illness was, among the general Iberian medical community, extremely primitive. Before the late eighteenth century, there was for most maladies simply no available body of systematic data derived from clinical observation that would have allowed for a scientific assessment of possible treatments. Another hindrance was the simplicity of contemporary scientific instrumentation – basic tools such as microscopes, stethoscopes and thermometers were still in the infancy of their development, and in any case rarely imported to Portugal.¹⁷ Similarly, during the middle 1700s, medical theorists in Portugal as elsewhere were only beginning to develop an understanding of the importance of sanitation and proper hygiene to good health.¹⁸

How one approached treating illness was, in this era, largely socio-economically determined, and the two worlds of elite and popular medicine in Portugal, as elsewhere, rarely met on the same ground. State-licensed healers typically did not share a common cultural approach to healing with their prospective patients among the peasantry. They invariably resorted to the lancet to draw quantities of blood, a painful and debilitating means to cure illness. Moreover, conventional practitioners of medicine were, for rural people with access to little ready money, expensive. In the eyes of a rustic tenant farmer and his family, it must have seemed that the odds of being cured by a *curandeiro* or *saludador* were no different from those derived from treatment a licensed surgeon or physician could provide. So, common people in Portugal had little incentive to patronise the few licensed doctors and surgeons they were likely to encounter in the countryside or provincial towns. Given that most country doctors had been crudely, archaically trained, this peasants' prejudice was probably well placed.¹⁹

15 Joaquim Verrissimo Serrão, *História de Portugal*, 10 vols (Lisbon, 1996), vol. 6 (1750–1807), p. 268.

16 Kenneth Maxwell, *Pombal: Paradox of the Enlightenment* (Cambridge, 1995), p. 102; and Lemos, *História da medicina*, vol. 2, pp. 185–97.

17 Arturo Castiglioni, *A History of Medicine* (New York, 1975), pp. 350–1, 700–1. See also Lemos, *História da Medicina*, vol. 2, pp. 59–154.

18 Castiglioni, *A History of Medicine*, pp. 637–46.

19 See Charles R. Boxer, 'Some Remarks on the Social and Professional Status of Physicians and Surgeons in the Iberian World, 16th–18th Centuries', *Jornal da Sociedade das Ciências médicas de Lisboa*, 137, Nos. 4–5 (1974): 287–306, 3–4; Maria Benedita Araújo,

Exacerbating the problem of poor medical training within Portugal further, publications containing what little high-quality medical information existed in the rest of contemporary Europe were often stopped at the border. The Portuguese government tried to impede all types of unorthodox ideas and sentiments from crossing into Portugal, using censorship as a means to keep unwanted doctrines out of the cognisance of the people. The crown called on the Holy Office in the seventeenth century to help administer this effort, forming a Royal Board of Censorship (*Mesa de Censura*) that empowered Inquisition employees to search ships and homes for prohibited materials. During the early stages of the Enlightenment, the Inquisition increased its vigilance, initiating trials not just against persons holding heretical religious texts, but also people of learning who dared question the (largely Jesuit-determined) educational status quo.²⁰

For the medical profession, the impact of this policy was to severely restrict most professional Portuguese physicians' access to the invaluable new theories and practical knowledge emanating from centres of medical learning in Holland, France and Britain. Still, as Enlightenment historian José Sebastião Dias has noted, 'determined thinkers ... managed to obtain and circulate [banned scientific] books'.²¹ A great irony, in fact, in the history of Portuguese medical modernisation is that, beginning approximately in the 1720s, many of the most ardent and active advocates for reform were themselves employees of the Inquisition, who used their privileged positions to gain access to prohibited medical and scientific texts.²²

The Role of Licensed Medical Practitioners within the Inquisition

Trained physicians and surgeons found a comfortable place within the hierarchy of the Holy Office, where their particular skills were essential to the day-to-day functioning of Inquisition business. Their numbers within the organisation were always relatively small, limited by the few official medical posts open to them, until the late seventeenth century, when employment as a *familiar* became more fashionable among ambitious men of the growing learned professional class in Portugal.²³ The earliest association of medical professionals with the Inquisition stemmed from the need to have a doctor resident in or attached officially to the Inquisition prisons. Each regional tribunal in Portugal – Lisbon, Évora and Coimbra – maintained its own facilities for the incarceration of prisoners awaiting trial or

O Conhecimento Empírico dos Fármacos nos Séculos XVII e XVIII (Lisbon, 1992), pp. 21–32; and José Pedro Paiva, *Práticas e crenças mágicas... na Diocese de Coimbra (1650–1740)* (Coimbra, 1992), pp. 77–119.

20 Silva Dias, 'Portugal e a Cultura Europeia', pp. 292–5.

21 Silva Dias, 'Portugal e a Cultura Europeia', pp. 292–5.

22 José Pedro Sousa Dias, 'Equivocos sobre a Ciência moderna nas Academias médico-cirúrgicas Portuenses,' *Medicamento, história e sociedade* Nova Série, 1 (1992): 2–9. See also Silva Carvalho, 'Dicionário dos médicos', vol. 2, p. 212; vol. 3, pp. 165, 168–70; vol. 4, 153–4; 194–5; and *Habilitações do Santo Ofício* (Lisbon: Arquivo Nacional do Torre do Tombo), *maço* 111, No. 1874.

23 See Torres, 'Da repressão religiosa para a promoção social', pp. 127–35.

exile, or for the imprisonment of those serving sentences after being convicted of a wide variety of crimes. Prisons being notoriously unhealthy places, and the Holy Office being in some measure sensitive to its responsibility for the health of persons held under its jurisdiction, the need for approved medical personnel attached to the Inquisition *cárce*es was manifest.

The 1640 *Regimento* of the Portuguese Inquisition, the primary manual of regulations which governed every function of that organisation for 134 years, until 1774 (when the *Regimento* was revised in accordance with Pombaline reforms), provided specifically for the appointment of designated professional medical Inquisition staff: one doctor, one surgeon and a barber in each city where a tribunal of the Holy Office resided (though in practice inquisitors might call for medical expertise on any other licensed healers who were *familiares*).²⁴ Medical officials were chosen according to the rigorous standards applied to any Inquisition employee – all physicians, surgeons and barbers who wished to work for the Inquisition first had to submit to the process of becoming a *familiar* of the Holy Office. Such a vetting process involved an intensive background check to verify that the applicant was of pure blood, untainted by that of ancestors who had been converted to Christianity. Further, the applicant had to be of sound moral and social standing; to ascertain this, the Inquisition took depositions from friends and professional associates who vouched for the character of the applicant. Candidates endured an obligatory investigation of their sources of income, mental stability, civic virtue and moral reputation. Moreover, the wives or fiancées, parents and grandparents of would-be Inquisition functionaries had to undergo similar examinations to prove, in accordance with the ‘purity of blood’ requirement, that their lineage was free of any New Christian taint.²⁵

Working inside the Inquisition prisons, of course, implied access to and knowledge of Inquisition methods; strict secrecy always shrouded the internal functioning of the organisation, and all employees were bound alike by the terms of their positions to maintain a unified front against prying outsiders.²⁶ *Familiares* were paid generally by the day or on a fee basis for their services. Professional medical personnel, however, drew an additional salary, the amount of which was set at the time of their appointment and seems to have varied according to the personal circumstances of each appointee.²⁷

From the physician’s point of view, initiating an association with the Holy Office was especially desirable for other reasons. Becoming a *familiar* brought many tangible social benefits. Employees of the Inquisition were exempt from military

24 *Regimento do Santo Officio da Inquisição dos Reynos de Portugal. Ordenado por mandado do Ilustrissimo e Reverendissimo Senhor Bispo Dom Francisco de Castro, Inquisidor Geral do Concelho de Estado de Sua Magestade* (Lisbon, 1640), *Livro I, Titulo 1*, § 1.

25 Gustav Henningsen and John Tedeschi (eds), *The Inquisition in Early Modern Europe: Studies on Sources and Methods* (DeKalb, IL, 1986), pp. 83–4.

26 *Regimento do Santo Officio* (1640), *Livro I, Titulo I*, § 7. See also ‘Regimento dos familiares do Santo Officio’ (Lisbon, 1694), British Library Manuscripts Division, Add. 20: 953, fol. 173–4.

27 *Regimento do Santo Officio* (1640), *Livro II, Titulo XX*, § 4; *Livro II, Titulo XXI*, § 5. See also ‘Regimento dos familiares do Santo Officio,’ fol. 173–4.

service, general taxation, and from the requisitioning of their lodgings by the government for the use of troops or officials. *Familiars* were shown special favour in the distribution of fundamental consumer goods, such as bread, meat, fish, olive oil, wood and coal. Moreover, Inquisition functionaries lived beyond the reach of royal jurisdiction; they were answerable only to the law courts of the Holy Office. This was true whether an Inquisition employee was the accused or the plaintiff in a criminal trial, or if he were a defendant in a civil lawsuit.²⁸ These extraordinary perquisites annoyed the common citizenry, who protested Inquisition privileges steadily over the years of the Inquisition's activity.

Perhaps it was this popular resentment that prompted the issue of a revised *Regimento* pertaining only to *familiars* in 1694. This brief statement, printed for public distribution (possibly as a handbill), further defined and restricted the rights of Inquisition civil employees with an explicit view toward minimising friction between them and the general public. Written prominently into the opening paragraphs is a caveat for *familiars* against immodest comportment and dress that 'might result in prejudice against the *Santo Ofício*'. Inquisition employees were warned not to 'aggravate or vex any person, on the pretext of [Holy Office] privileges... lest [that person] shall have hatred' for such behaviour.²⁹ In particular, this publication warned that *familiars* could not receive special discounts from merchants or favours from royal officials who might have other business with the Holy Office. Beyond that, the document stipulated that *familiars* 'could not accept any item, even if it be of little value' from members of the public, lest someone expect special consideration in return. For a *familiar* to do so would be to risk suspension from duty – and the consequent cessation of the privileges of office.³⁰

Nevertheless, such castigation did not reduce the demand for posts within the Holy Office; indeed, the opposite was true. Among *letrados* – educated elites such as lawyers, scholars and, of course, physicians – desire to become a *familiar* grew steadily, expanding enormously during the century from 1670 to 1770.³¹ According to a valuable recent study by José Viegas Torres, the number of *familiars* employed by the Inquisition during this period grew by a factor greater than 4.5 times. During the decade from 1661 to 1670, there were a total of 478 *familiars* attached to the three tribunals of Lisbon, Évora and Coimbra; by contrast, 2252 *familiars* worked for the Holy Office during the decade 1761–70.³² Using the same decades, 29 of the Inquisition's 478 *familiars* were *letrados* during the earlier period; 100 years later the number had grown to 260. In the period 1741 to 1750, the last decade of Dom João V's reign, fully 11 per cent (182 of 1639) of *familiars* were identified professionally as *letrados*, a sizeable proportion of whom were *médicos*.³³

Torres argues that the rising middle class in Portugal grasped the utility of a *familiar*'s credentials as a way to enhance their social status and gain practical

28 Henningsen and Tedeschi, *The Inquisition*, p. 84.

29 'Regimento dos familiares do Santo Ofício,' fol. 173–4.

30 'Regimento dos familiares do Santo Ofício,' fol. 173–4.

31 Torres, 'Da repressão religiosa para a promoção social', pp. 127–35.

32 Torres, 'Da repressão religiosa para a promoção social', p. 135.

33 Torres, 'Da repressão religiosa para a promoção social', p. 133.

social advantages. Increasingly, he says, the Inquisition became an institution that promoted the interests of the Old Christian bourgeoisie: learned professionals, state bureaucrats and urban merchants alike. Professional medical practitioners followed this trend like so many of their social peers, seeking to increase their status, participate in the Inquisition network and gain the perquisites of office consequent to being a *familiar*.

To lend a further dimension of understanding to this matter, consider the statistically significant number of all Portuguese physicians and surgeons who worked for the Inquisition in varying capacities during the reign of Dom João V. Portuguese historian of medicine Augusto da Silva Carvalho's massive eight-volume work, *Dicionário dos médicos e cirurgiões portugueses ou que estiveram em Portugal*, an unpublished typescript with manuscript annotations completed in about 1940, lists alphabetically an estimated 12,000 medical practitioners who were active in Portugal between the thirteenth and the first half of the twentieth centuries. An examination of these volumes yielded approximately 2100 listings for the period between 1690 and 1760. Of these, there were 1948 entries containing enough detailed information about the life of the named physician or surgeon to ascertain accurately whether or not he was a functionary of the Holy Office. Nearly eight per cent of those entries (150 of 1948) had acquired credentials as *familiars* of the Inquisition.³⁴ While this cannot be considered a complete listing and we must allow for a sizeable margin of error, these figures are reasonably consistent with those Torres offers for the number of *letrados* who became *familiars* of the Inquisition during this period when the overall number of *familiars* was also expanding. For a further check to give insight into this subject, a survey of the indexes for records of applications to the Holy Office, the *Habilitações do Santo Ofício*, reveals that only approximately four per cent of all those wishing to become *familiars* during the first half of the eighteenth century were either licensed physicians, surgeons, barbers, phlebotomists or pharmacists. However, the great majority of these – better than 95 per cent – were ultimately approved for service.³⁵

The Inquisition quite naturally sought to fill its ranks with the best possible candidates, men of unquestioned reputation and moral standing, but also of notable skill in their work. Indeed, the 1640 *Regimento* stipulated that Inquisition medical staff should be 'persons worthy of great confidence, and the best informed individuals of the town'.³⁶ And of course, because of the benefits derived from Holy Office employment, the best eligible Old Christian medical practitioners sought positions there to further enhance their own social status. In fact, as José Viegas Torres suggests, the Inquisition functioned increasingly during the eighteenth century as something of a fraternal trade organisation where members 'networked', developing social and professional contacts.³⁷ Membership usually brought increased status, true, but facilitated real material benefit, as well. It should come as no surprise, then, that

34 Silva Carvalho, 'Dicionário dos médicos', vols 1–8.

35 *Habilitações do Santo Ofício* (Lisbon: Arquivo Nacional do Torre do Tombo; hereafter ANTT), vols 1–32.

36 *Regimento do Santo Ofício* (1640), *Livro I, Título XX*, § 1.

37 Torres, 'Da repressão religiosa para a promoção social', pp. 109, 122–3, 131–2.

the Holy Office drew to its ranks some of the best-known physicians and surgeons of the day, and that, because of their renown, these were often exactly the same men who were tapped to fill posts both at the royal court and at hospitals and the university (Coimbra) supported by the crown. Plurality of office was, as elsewhere in Europe, quite common in eighteenth-century Portugal, and the number of qualified physicians and surgeons was always relatively small.

It is for this reason that a modestly sized group of elite medical professionals could come to exercise a significant influence over several key Portuguese institutions just before and during the reign of João V; many of the same surgeons and physicians simultaneously held posts in the Inquisition, at court, in the Todos-os-Santos Royal Hospital in Lisbon (important as a teaching hospital), and in the Faculty of Medicine of the University of Coimbra. Moreover, because such posts were often lifetime appointments, these men held their positions typically for decades at a time, throughout the most important, productive years of their careers. Hence, this central corps of medical professionals exercised an influence at the core of the Portuguese *ancien régime* that was marked by great consistency and continuity. Many of the key faces stayed the same for much of King João V's reign.

Once approved, an Inquisition *médico* could expect to carry out a variety of duties. Significantly, in addition to the inmates of the Inquisition prisons, the physician and surgeon of the three regional Holy Office tribunals were obliged by the terms of their appointment to care for the officers of those tribunals, as well as for members of these inquisitors' respective families. It was for this reason that the Inquisition supplied a salary to its medical employees, according to the 1640 *Regimento*.³⁸ Hence, the administrative personnel of the Holy Office were provided with their own in-house healthcare service, staffed by first-rate licensed professionals.

The working interaction between these two classes of Inquisition employees should have been wholly amicable. This was, after all, a relationship between peers; both physicians and upper-level inquisitors were social elites who enjoyed a great deal of status due to their positions as educated professionals, as well as for their association with the Holy Office. These men were, generally speaking, drawn from a similar stratum of society and shared kindred background experiences: Old Christian families, usually of equitable economic means; long association with the church; similar educational training; possible patronage from a noble or aristocratic family; and a particular consciousness born of belonging to an elevated social class in relation to most other people in early modern Portuguese society.

What principal duties occupied the time of a physician or surgeon assigned to oversee an Inquisition prison? Squalid, ill-lit and poorly ventilated, the *cárce*res of the Holy Office, like any early modern prison, provided a propitious environment for disease.³⁹ Because accused persons often remained incarcerated for months and even years – awaiting trial or undergoing preliminary interrogations – many inmates

38 *Regimento do Santo Officio* (1640), *Livro I, Título XX*, § 3.

39 Those interested in the state of Inquisition prisons can read accounts published in English by merchants arrested for freemasonry, such as John Coustos, *The Sufferings of John Coustos for Free Masonry and for Refusing to turn Roman Catholic in the Inquisition at Lisbon...* (London, 1746), and Hippolyto Joseph da Costa Pereira Furtado de Mendonça,

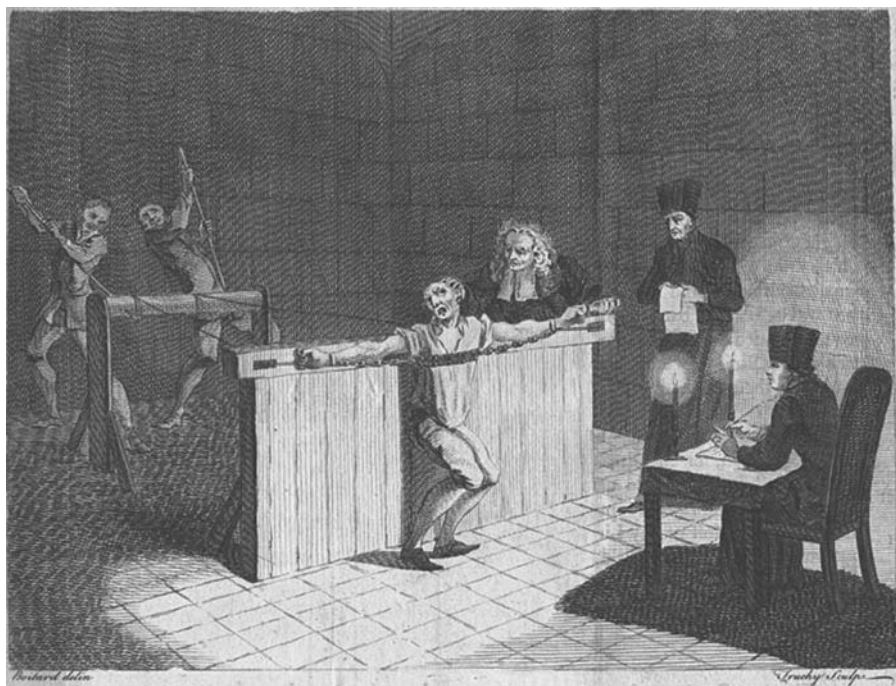


Fig. 2.2. Torture session: Portuguese Inquisition.

The accused is being squeezed using a constricting strap and lever system. Note the examining Inquisitor (holding a book), the scribe and the attending physician, who appears to be assessing the victim's endurance. Engraving by Boitard, published in *The Sufferings of John Coustos for Free-Masonry, and for his Refusal to Turn Roman Catholic, in the Inquisition at Lisbon* (London, 1746).

succumbed to illness. The *Médico dos Cárceres*, along with the surgeon and barber, were charged with maintaining, to the best of their abilities, good health among the prisoners. To this end, they were required to make regular rounds, bleeding inmates whose humours were clearly out of balance, prescribing changes in diet and dispensing medicinal preparations, usually at the prisoner's expense.⁴⁰

Beyond treating inmates for the inevitable maladies which arose from their unfavourable living conditions, Inquisition physicians and surgeons examined prisoners to see if they were fit enough physically to undergo torture sessions. That the prisoner be able to endure prolonged pain and remain conscious to give testimony was essential to the interrogation process. If the physician or surgeon judged the prisoner to be of a sound constitution, that medical practitioner would also attend the torture session to supply a professional opinion about the state of the prisoner as the session progressed. The physician or surgeon could determine if the treatment

Narrative of the Persecution of Hyppolyto Joseph da Costa Pereira Furtado de Mendonça..., 2 vols (London, 1811), pp. 138–9.

⁴⁰ *Regimento do Santo Officio* (1640), *Livro I, Titulo XX, § 2–4*.

should proceed, or whether torture had begun to endanger the life of the accused.⁴¹ Inquisition records clearly show many cases where torture sessions were halted because, in the attending medical practitioner's view, the victim's threshold of pain had been passed, after which point the prisoner ceased to be a valuable witness.⁴²

Occasionally the *Médico dos Cárceres* would be summoned to attend an especially grave case, either at the request of the chief jailer or of the prisoner's family. And occasionally this system of responsibility broke down. For example, in Coimbra in 1741, Clara Maria da Costa, aged 26, was arrested for suspicion of perpetrating superstitious acts and sorcery. Re-arrested for a relapse of her objectionable ways 11 years later, she fell gravely ill while in the regional bishop's prison at Oporto. The latter third of her official Inquisition dossier is full of letters, written by family members or friends and dated from the late 1750s, petitioning for her release on the grounds that she was both innocent and in poor health. Although the physician of the Royal Arsenal at Oporto examined her and certified that she was gravely ill, the *alcaide* (jailer) in charge of the prison would not release her without the consent of surgeon Manuel Martims Freire, who was the official *Médico dos Cárceres* in Coimbra and a *familiar* of the Inquisition. For some unspecified reason, probably because of the distances and time involved, Freire never travelled to Oporto to examine the accused prisoner. As late as 1771, Clara Maria da Costa remained incarcerated, appealing her case.⁴³ In that year she was approximately 56 years old and had spent better than 20 years in prison.

If a convict or one of the accused became mentally unstable while incarcerated, the chief jailer and inquisitors would call upon the prison medical staff to address the prisoner's madness. Judging from the explicitness with which 'insanity' was addressed in the 1640 *Regimento*, this problem, whether feigned or real, was not uncommon. And no wonder: then as now, being judged mentally deficient worked to the accused's advantage. Legal proceedings against the suspect were suspended and the prison physicians were ordered to restore the inmate to his senses with 'all possible means', including whatever medicines they thought necessary. If in the physicians' opinion the prescribed remedy could not be administered effectively within the *cárceres*, the prisoner would be interned at the Todos-os-Santos Hospital in Lisbon, which had a special ward to treat madness. The 1640 *Regimento* further provided that, should the patient still not regain his senses, he would be released to the care of his relatives until such time as he was judged able to stand trial, if at all.⁴⁴

Occasionally doctors of the Inquisition would be called to testify during a trial, where they were expected to give a professional opinion in cases against popular healers or sorcerers. In a sworn statement, the physician would provide an opinion about why, from the viewpoint of scientific medicine, the accused was a charlatan.

41 BNL, *Regimento do Santo Officio* (1640), *Livro I, Titulo XX*, § 3; *Livro II, Titulo XIV*, § 6.

42 ANTT, Inquisição de Coimbra, *processos* Nos 9545 and 7346; Inquisiçao de Évora, *processos* Nos 516 and 2602.

43 ANTT, Inquisição de Coimbra, *processo* No. 6299.

44 *Regimento do Santo Officio* (1640), *Livro II, Titulo XVII*, § 1–2.

Statements such as these range from the perfunctory to ones of exceptional detail, with the *médico* giving a lengthy explanation of why the *curandeiro's* methods were unsound. For example, in 1714, Dr Gonçalves de Ferreira testified against the accused healer Maria Álvares, describing specifically the maladies for which she had been consulted and saying with all the weight of his medical authority that her treatments were ill-matched to the symptoms her patients displayed.⁴⁵ Or consider another case, this one against a male healer named Paulo Simões, in 1700. After an initial statement given by one Manuel Luís, a merchant of Coimbra, accusing Paulo Simões of being in the habit of performing cures with blessings (*costuma curar com benções*), there follows a statement from Dr António Teixeira Álvares, surgeon and 'Doctor of the Algarve, instructor of the University of Coimbra and *Promotor* [prosecutor] of the city.' He essentially confirmed and supported the case against the accused by reiterating the charges, his very presence affirming that the healer's methods were medically unsound.⁴⁶

Inquisition doctors and surgeons were also instrumental in the mandatory investigations that followed the death of any prisoner held in the Holy Office prisons. The 1640 *Regimento* governing the Inquisition required that the remains of a deceased prisoner be examined 'before the body is removed from the room wherein he died' by 'two notaries and one of the physicians of the Holy Office' so that these officials could ascertain whether the death had been the result of violence or natural causes. (Murder among inmates of Inquisition prisons was apparently not unknown.)⁴⁷ For example, during the second quarter of the eighteenth century, the physician Manuel dos Reis e Sousa was called upon several times during his tenure as *médico* of the Inquisition prisons in Coimbra to certify the cause of death when a prisoner expired while in custody. In a signed *Acto do Morte*, the doctor affirmed that the prisoner had succumbed to natural causes and was not the victim of undue ill treatment or foul play.⁴⁸

An Inquisition physician might also have been called in to examine a prisoner for medical evidence of being a crypto-Jew. Diogo Nunes Brandão, a New Christian born in Lisbon in 1671, had trained in medicine at the University of Coimbra. He was arrested on 3 August 1702 by the Inquisition of Lisbon and charged with *judaismo*. As part of the initial investigation into his case, Inquisition authorities arranged to have him undergo a physical examination conducted by the *médico* Manuel de Pina Coutinho and a surgeon, António de Figueiredo, both *familiares* of the Holy Office. The two medical practitioners, apparently called in to give a second opinion on an earlier examination, declared that a scar which the accused had next to what they termed his 'gland' was the result of horseback-riding and specifically not the mark of a circumcision. Despite this evidence in his favour, Brandão confessed to all his beliefs and practices as a Jew and proceeded to denounce more than 100 of his co-religionists in both Portugal and Spain. He was condemned to perform penances and

45 ANTT, Inquisição de Coimbra, *processo* No. 8698.

46 ANTT, Inquisição de Coimbra, *processo* No. 9711.

47 *Regimento do Santo Officio* (1640), *Livro* II, *Titulo* XVIII, § 1.

48 ANTT, Inquisição de Coimbra, *processos* Nos 7300, 6315 and 6218.

serve an indefinite imprisonment at the discretion of the inquisitors on 3 October 1704.⁴⁹

Clearly, physicians and surgeons were central to the internal bureaucracy of the Holy Office. In addition to attending to the health of incarcerated offenders, they also participated in each stage of a *processo* from beginning to end: examining the accused person during an initial investigation, providing testimony as expert witnesses, overseeing torture sessions and, in cases against popular healers, submitting professional statements assessing the efficacy of the accused's healing practices.

Because they also tended to the illnesses of the inquisitors themselves and their families, and because these learned professionals interacted frequently on a social plane that was more or less level, physicians and surgeons were uniquely placed to influence Holy Office policies regarding popular healers. After all, it was the *médicos*, their families or subordinate colleagues – *sangradores* and *barbeiros* – who initiated many of the trials against *curandeiros* by denouncing them to the Holy Office. The immediate effect of the Inquisition's persecution of *curandeiros* during this period was to serve the interests of professional medical practitioners.

Persecuting healers also served the interests of the inquisitors who directed the Holy Office. However, interests at the top of the institution were substantially different from those of contemporary doctors within the lower ranks of the Inquisition. By bringing popular healers to trial, high ranking inquisitors hoped to assert and perpetuate the role of their institution within Portuguese society. Naturally, the Inquisition's mission was to confront heresy or apostasy in any of its manifestations, and to compel orthodox behaviour among Catholics living in regions under its jurisdiction. Therefore, to pursue cases of superstitious healers who, in the eyes of the church, relied on nefarious ungodly powers for their efficacy was clearly consistent with the original purpose of the Inquisition.

Further, such ecclesiastical policing justified the continued existence of the Inquisition at a critical moment when that institution was being criticised by persons inside and outside of Portugal who charged that the Holy Office, an anachronistic, reactionary body, was retarding Portugal's progress among the other nations of a modernising Europe. The propaganda war against the Inquisition, conducted by *estrangeirado* expatriates and Protestants from northern Europe, was at full tide during the middle years of the eighteenth century.⁵⁰ A prolonged campaign against supposed agents of Satan (and, not incidentally, against Jews, who also found themselves more vigorously persecuted during this period) demonstrated that the need for continued vigilance in the face of demonic activity had not abated. Finally, a strong stance against the spiritual enemies of the Catholic Church reinforced the Inquisition's reputation and position in the popular mind as protectors of the faith, guarantors of the common people's salvation. For the majority of the Portuguese people, persecutions of Jews

49 ANTT, Inquisição de Lisboa, *processos* Nos 15292 and 2361; see also Silva Carvalho, 'Dicionário dos médicos', vol. 6, pp. 72–3.

50 See the writings of António Nunes Ribeiro Sanches, among other key works, *Origem da Denominação de Cristão-Velho e Cristão-Novo em Portugal* (1756), as well as John Coustos, *The Sufferings of John Coustos* (London, 1746).

and heretics remained a popularly supported crusade; therefore, such trials, even if they drew criticism from intellectuals abroad, represented a net public relations victory for the Inquisition.⁵¹ Still, we must remember: in the case of *curandeiros*, these benefits accrued to the Holy Office only as a secondary effect of the doctor/*familiares*' initial actions. Left to themselves, Inquisition and Church officials in the seventeenth century had taken almost no interest in or action against folk healers. Systematic persecution of *curandeiros* required a critical mass of licensed medical professionals engaged in the ranks of the Portuguese Holy Office.

Hence, we have an extraordinary situation in which two bodies of individuals within the same institution – the *médicos* and the inquisitors – were working towards widely divergent ends by pursuing the same course of action. By bringing popular healers to trial and charging them with crimes against God – superstition, sorcery and witchcraft – medical professionals sought to reinforce their own position, both economically and authoritatively, within the medical field. Moreover, by discrediting popular healers, progressive-minded doctors simultaneously sought to further the cause of rational scientific medicine within Portugal. The inquisitors, conversely, attempted to reinforce their position as guardians of the faith by insisting on the maintenance of a status quo in medicine which had existed in Portugal for 400 years: the subordination of medical training under a framework consistent with church orthodoxy, as characterised by Galenic teaching. This view included the continuance of the orthodox position that assumed that all popular healers necessarily derived illicit powers from diabolical sources, a view which more than justified their persecution. The Holy Office had nothing to gain by introducing the population at large to medical innovations; on the contrary, the Church had a long record of resisting scientific discoveries that contradicted orthodox teaching precisely because science undermined the Church's institutional authority.

Even so, as the Inquisition recognised implicitly by employing *médicos* as *familiares*, trained doctors could be very useful in ferreting out dangerous *curandeiros*. It was a most contradictory relationship. Healers, for their part, were caught in the middle: not only were they undermining the professional authority of scientifically trained doctors; they were also challenging the Church's spiritual authority either implicitly or explicitly by claiming powers of healing which, under orthodox thought, should rightly come only from God. In so doing, *curandeiros* became targets for persecution from both groups. Inquisitors and *médicos* therefore combined against popular healers, each for their own reasons. Although science and religion embarked on increasingly divergent paths as the Enlightenment wore on, for that moment in Portugal, agents of both camps could still work together before separating, with doctors removing healing from the spiritual realm and placing it firmly in the scientific realm.

That Portuguese Old Christian doctors had previously used the Inquisition to attack their professional competitors has already been demonstrated, though the cases they initially brought were typically against New Christian medical practitioners, not popular healers. Maria Benedita Araújo, in her article entitled 'Médicos e seus

51 See Francisco Bethencourt, *História das Inquisições: Portugal, Espanha e Itália* (Lisbon, 1994), pp. 230–48.

familiares na Inquisição de Évora', refers exclusively to New Christians and their relatives who were persecuted within the jurisdiction of the Évora tribunal of the Inquisition – the Algarve and Alentejo regions – during the sixteenth, seventeenth and eighteenth centuries.⁵² She reports that, in many cases, Old Christian doctors went to officials of the Holy Office and denounced New Christian physicians and surgeons as crypto-Jews, often when the latter were young and just starting out in the medical profession.⁵³ Her findings reveal a pattern of persecution, too, but at a time when there were far fewer *médicos* at work in the Holy Office ranks. Nevertheless, this practice constituted a powerful precedent for Old Christian doctors, demonstrating a way that Inquisition regulations could be put to use for their own purposes. This phenomenon was also known within the jurisdiction of the Coimbra Holy Office tribunal. Knowledge of these cases helps to explain why scores of New Christian *médicos* left Portugal during the seventeenth and eighteenth centuries to take up residence abroad, becoming thereby the very *estrangeirados* who through their correspondence would so strongly influence thought about medical reform in their home country.

A brief look at the working relationship between one veteran inquisitor, António Ribeiro de Abreu, who as a Holy Office prosecutor (*deputado*) conducted dozens of *curandeiro* trials in Coimbra and Lisbon, and António de Abreu Bacellar, a licensed physician who held the credentials of an Inquisition *familiar*, will provide a good picture of how close the relationship between these two types of elite professionals could be.

António Ribeiro de Abreu and António de Abreu Bacellar worked side-by-side in Coimbra between approximately 1718 and 1730, during the middle phase of the Inquisition's long sustained period of trials against *curandeiros*. António Ribeiro de Abreu was one of the Coimbra tribunal's most active inquisitors in cases against popular healers, serving as a judge in more trials – at least 24 – than any other inquisitor except his contemporary, Bento Paes de Amaral.⁵⁴ António de Abreu Bacellar, meanwhile, had earned a doctorate, was a professor on the Coimbra Faculty of Medicine, had been a *familiar* of the Holy Office since 1699 and, beginning on 15 March 1707, was an official prison *médico* of the Coimbra Inquisition.⁵⁵ He held this post into the 1730s, through the period of António Ribeiro de Abreu's tenure as an inquisitor in Coimbra. Moreover, as an indication of his philosophical outlook, António de Abreu Bacellar was personally acquainted with the progressive expatriate physician Jacob de Castro Sarmento, who advocated rationalist medical reform in

52 Maria Benedita Araújo, 'Médicos e seus familiares na Inquisição de Évora', in *Comunicações apresentadas ao 1º Congresso Luso-Brasileiro sobre Inquisição*, 3 vols (Lisbon, 1990), vol. 1, pp. 49–72.

53 Araújo, 'Médicos e seus familiares na Inquisição de Évora', p. 65.

54 Inquisitor António Ribeiro de Abreu participated as a judge in at least 20 trials conducted by the Coimbra tribunal against 16 different accused popular healers, four of whom were tried twice, between 1718 and 1736. See ANTT, *Inquisição de Coimbra; processo* Nos 33, 6305, 6315, 6515, 7135, 7136, 7300, 7346, 7779, 7827, 8307, 8699, 8899, 9545, and 10,011.

55 ANTT, *Habilitações do Santo Ofício*, *maço* 33, No. 838; and Silva Carvalho, 'Dicionário dos médicos', vol. 1, p. 26.

Portugal. Abreu Bacellar would correspond with the famous Portuguese *converso* Castro Sarmiento, once the latter became a fugitive expatriate living and practising medicine in London.⁵⁶

One product of António Ribeiro de Abreu and António de Abreu Bacellar's long collaboration as functionaries of the Inquisition was a string of Holy Office trials which, taken together, amount to a campaign of persecution against popular healers. What evidence supports this claim to their cooperative effort? First, the two were more than contemporaries; they were old colleagues. They had lived and worked together at the University of Coimbra for most if not all of the first decade of the eighteenth century. António Ribeiro de Abreu earned a doctorate in canon law and was named to several high administrative posts at the university, including *vice-conservador* (vice-provost or vice-rector) and coordinator of the professors in his discipline.⁵⁷ During the same time, António de Abreu Bacellar was serving as a professor of surgery at the university, and in 1702 he also undertook the duties of an alderman (*vereador*) for the city of Coimbra.⁵⁸ António Ribeiro de Abreu was confirmed as a *familiar* of the Inquisition in 1712. Shortly afterward he was posted to the Lisbon tribunal as a prosecutor and deputy; he returned to Coimbra as an inquisitor in 1718.⁵⁹ António de Abreu Bacellar's career with the Holy Office had begun sooner; he was made a *familiar* of the Holy Office on 2 March 1699.⁶⁰ The two then worked within the Coimbra tribunal simultaneously between 1718 and 1731, years of very heavy *curandeiro* prosecutions. So, these two men shared some very close ties, but there is one further connection. In all probability, the two shared a common family link; strong evidence suggests that António Ribeiro de Abreu and António de Abreu Bacellar were cousins, thus providing an additional context for their cooperative working relationship.⁶¹

Hence, the lives of António Ribeiro de Abreu and António de Abreu Bacellar were tightly interwoven and their working relationship was important for explaining the causality of *curandeiro* trials in Portugal, but their experience was far from unique. Medical professionals and career inquisitors frequently worked together in tight-knit institutions like the Holy Office or the University of Coimbra. As members of a middle-class educated urban elite, a group of decidedly modest size, such was simply their common experience; the institutions that trained them were small and the administrative positions open to them were relatively few. Is it any wonder, then, that these two contemporaries (and others like them) should have worked together in the Holy Office toward the same end – bringing *curandeiros* to trial (though, to be

56 Silva Carvalho, 'Dicionário dos médicos', vol. 1, p. 26.

57 Maria do Carmo Jasmins Dias Farinha, 'Ministros do Conselho Geral do Santo Ofício', *Memória, Revista Anual do Arquivo Nacional da Torre do Tombo* 1 (1989): 136.

58 ANTT, Habilitações do Santo Ofício, *maço* 33, No. 838; Silva Carvalho, 'Dicionário dos médicos', vol. 1, p. 26.

59 Farinha, 'Ministros do Conselho Geral do Santo Ofício', p. 136.

60 ANTT, Habilitações do Santo Ofício, *maço* 33, No. 838; Silva Carvalho, 'Dicionário dos médicos', vol. 1, p. 26.

61 Their exact relationship is difficult to ascertain. Available sources point to their being distant cousins. See Farinha, 'Ministros do Conselho Geral do Santo Ofício', p. 136; and ANTT, Habilitações do Santo Ofício, *maço* 33, No. 838.

sure, probably for divergent reasons)? Because of the existence of numerous inter-linking relationships like theirs, the human and professional connections necessary to make a planned suppression of popular medicine possible were firmly in place within the institutional structure of the Holy Office.

As has been demonstrated, some Inquisition personnel functioned as experts in the prosecution of popular healer cases. Time and again, Holy Office records provide the same names of individuals who advised the panels of inquisitors that adjudicated *curandeiro* cases. A tally correlating the names of known *deputados* with Holy Office trials pursued against known popular healers reveals that just a handful of men sat in judgment on the great majority of these cases between 1715 and 1760. As in so many other episodes of Portuguese history, the key players in the arena of conflict that pitted doctors and inquisitors against folk healers were part of a rarefied, inter-connected cadre.

* * *

The increase of medical professionals among the *familiar*'s ranks accounts most for the dramatic growth in Inquisition cases against *saludadors* and *curandeiros* in Portugal during the reign of João V. Such medical professionals had a twofold interest in seeing popular healers oppressed and their activities curtailed. The first was purely a matter of trade competition. Official, state-sanctioned medical practitioners stood to gain financially if they could drive popular healers out of business through sustained Holy Office persecution. True, members of the lower social orders were generally not willing, let alone able, to pay the rates professional licensed healers charged for their services but, for a certain level of medical practitioner – country barbers, blood-letters and surgeons – there was a promising trade to be absorbed if rustics could be weaned away from their traditional cunning men and women. Further, licensed conventional healers at all levels of the profession stood to improve their strategic position as healthcare providers if they could discredit popular healing methods in the eyes of the general public. Beginning around the turn of the eighteenth century, then, licensed medical practitioners in Portugal lost their willingness to live with the contradiction of two separate, unequal, methodologically incompatible healing traditions in their country. Using their positions of influence within the Holy Office, they embarked on a programme of systematic repression of magical healing, thereby promoting rationalised medicine at a time when other avenues to bring enlightenment reforms to the medical profession in Portugal were closed.

The Ignorance of Midwives: The Role of Clergymen in Spanish Enlightenment Debates on Birth Care¹

José Pardo Tomás and Álvar Martínez Vidal

Introduction

The traditional historiographic point of view on this subject portrays the advent of the male-midwife surgeon role in Spain as a result of French influence: the Bourbon Court in Madrid would have been the pathway of introduction for this trend, a trend widely accepted and generally adopted thereafter, as queens in labour were aided by male-midwife surgeons called upon from France for the occasion. Thus the fact that Jules Clément's services were required in 1713 for the delivery of Queen Luisa Gabriela de Saboya, Philip V's first wife, would appear as an almost outrageous exception at that time in Spain.² The renown of French male-midwives and the example of the Royal Family would have been, at least initially, the main incentive in the introduction and spreading of male-midwife surgeons in Spain.

In fact, the name 'partero' for male-midwives became customary in Spanish within the first decades of the eighteenth century. The *Diccionario de Autoridades*,³ the first one published by the Spanish Academy, defines it concisely as 'the surgeon who aids childbirth'. This dictionary assigns 'the trade of assisting and helping delivery' specifically to midwives as opposed to male-midwives. Moreover, 'midwifery' was purely and simply 'the midwife's job', and therefore male-midwives were but more or less specialised surgeons.

In the Spain of the first half of the eighteenth century, the male-midwife role was steadily taking shape from the social point of view; not only due to the fact that it was given a recognised designation by the Academy, but also because this trade was already giving rise to hostility among some authors, such as Diego Torres Villarroel, who spawned some of the most venomous indictments, in which he described them

1 All translations in this chapter are by the authors unless otherwise stated.

2 Manuel Usandizaga, *Historia de la obstetricia y de la ginecología en España* (Santander, 1944), pp. 213–4; Juan Riera, *Cirugía española ilustrada y su comunicación con Europa* (Valladolid, 1976), pp. 86–92.

3 *Diccionario de Autoridades* (Madrid, 1726–39). A century earlier, however, *El tesoro de la lengua castellana o española* by Sebastián de Covarrubias (Madrid, 1611) did not include terms such as *partero* or *comadrón* [male-midwife], although *partera*, *comadre* and *madrina* [female-midwife] were used explicitly about the person 'who helps giving birth'.

as ‘thieves of the childbearing tool, stealing their trade from midwives’.⁴ There will not be many more voices to speak on behalf of these women, as we shall see.

Nevertheless, it seems clear that this decisive transformation in the field of birth care took place widely across Europe throughout the eighteenth century, and that it was quite complex. Our objective is to analyse the Spanish case, paying special attention to the active participation of several moralising clergymen in the repeated controversies regarding this issue. To do so, we have examined a wide range of texts from different sources (medical, legal, surgical and moralist) which, throughout the century, significantly illustrate distinct discourses concerning the problem of birth care.

Among other aspects there was a conspicuous effort of legitimisation made by an emerging professional group whose aim was to take over a craft which had not traditionally been the object of their business, by displacing its hitherto main figures. The most immediate consequence of this was the subservience of midwives to male-midwife surgeons, together with a progressive confinement of the former to social and geographical arenas separate from the official health system. Midwives’ traditional hegemony was progressively substituted by that of male-midwives. The art of midwifery yielded to an obstetric surgery, in male hands and technically forged according to the current surgical and medical knowledge.⁵

In the beginning, it was necessary to present strategies to systematically question midwives’ capabilities. This questioning ended up being a commonplace in discourses voiced not only by the medical and surgical academic establishment, but also by political, intellectual and religious institutions and by philosophers and writers as well.⁶ As is obvious, judgements from physicians and surgeons on midwives’ incompetence, unveiling numerous cases of mother and child death at the hands of those helping childbirth, became an early overriding argument.⁷ It is in this context that we should consider the role of Catholic moralist clergymen as being far from superfluous.

4 Diego Torres Villarroel, *Sueños morales, visiones y visitas de Torres con Don Francisco de Quevedo por Madrid: corregidos y aumentados con la Barca de Aqueronte, residencia infernal de Plutón* (Madrid, 1786), p. 22 (1st edition Salamanca, 1743).

5 An excellent overview can be consulted in the works collected in Hilary Marland (ed.), *The Art of Midwifery: Early Modern Midwives in Europe* (London, 1993). On the specific figure of the man-midwife, though limited to England, see Adrian Wilson, *The Making of Man-Midwifery: Childbirth in England, 1660–1770* (London, 1995).

6 Goethe, in his *Dichtung und Wahrheit*, when recounting his birth on 28 August 1749 in Frankfurt am Main, relates that ‘because of the midwife’s clumsiness I arrived almost dead and only thanks to countless efforts was I made to see the light. This circumstance, which had plunged my kin into great worry, turned out nevertheless beneficial for my fellow citizens, as my grandfather, chief magistrate Johann Wolfgang Textor, took it as a pretext to hire a male-midwife and to introduce or renew instruction for midwives, which had to be advantageous for some of those born later on.’ [Our translation.]

7 Àlvar Martínez-Vidal and José Pardo-Tomás, ‘Un conflicto profesional, un conflicto moral y un conflicto de género: los debates en torno a la atención al parto en la Ilustración’, *Cronos* 4 (2001): 3–27.

Different authors from disparate viewpoints asserted the need to solve the serious problems attributed to lack of male involvement in birth care, starting, for instance, with the openly populationist discourses whose aim was to strengthen the state and improve the kingdom's welfare by increasing the number of its subjects. As was the case in other European countries, some Spanish clergymen publicly entered the debates, and although initially endorsing more independent positions, they ended up, as we shall see, supporting the interests of the male-midwives, for this professional body was able to present itself as the best assurance for the administration of the sacrament of baptism to newborns, an issue of great importance for clergymen.

The Newborns' Baptism According to a Cistercian Monk

Thus, as we have indicated, in the eighteenth century some clergymen, both secular and regular, raised their voices to take part in the debates concerning birth care. As this issue was close to issues of life and death, it could not but be one of the main worries for Catholic moralists. Above all, as we have said, their main concern was newborns' baptism for, without the sacrament, their souls would not be able to achieve the grace of redemption and, as a result, would not be able to gain everlasting life. Hence their concern that those in charge of birth care should not neglect the Christian duty to baptise newborns whose life could be at risk. As moral theologians, they were more concerned about competence to baptise following the genuine ritual than about obstetric skills.

As with Nadia Maria Filippini's studies on the Italian case, the relationship between parish priests and midwives in Spain was very close, especially in rural communities. As they might be required to urgently baptise the newborn, midwives were chosen according to their uprightness. There was also a wish to control other practices in the community: abortion, illegitimate births, pregnancies and deliveries by single mothers, etc. The parish priests saw the midwife as an allied party in the task of controlling and informing them about what was happening in those areas of their communities where their access was restricted, and for this it was necessary for them to rely on a approved agent who was allowed to gain entry to bedrooms in the most critical moments of private life. The midwife's carrying of the newborn to the baptism font in the parish church was not merely symbolic, but an expression of that special relationship between the trades of midwives and priests.⁸

Following the Tridentine guidelines, baptism became an essential bastion for the Church in its mission to indoctrinate the people better in Catholic orthodoxy. The high newborn death-rate, typical of the traditional demographic model, justified the immediate administration of baptism upon delivery, even by non-clergymen, when faced with any sign of danger for the newborn's life. Adequately instructed, midwives ensured the administration of baptism at the sites of birth. For instance, Cistercian Father Antonio José Rodríguez questioned in 1742 the soundness of

8 Nadia Maria Filippini, 'Levatrici e ostetricanti a Venezia tra sette e ottocento', *Quaderni Storici* 58 (1985): 149–80; and Nadia Maria Filippini, 'The Church, the State and Childbirth: the Midwife in Italy during the Eighteenth Century' in Marland (ed.), *The Art of Midwifery*, pp. 152–75.

baptism when conducted by midwives, making a distinction between professional midwives and women who, not being recognised as midwives, happened to aid childbirth. Following Father Lacroix, Rodríguez recommended repeating baptism *sub conditione*, particularly when the woman assisting delivery did not meet the necessary requirements.⁹

In the eighteenth century, new discoveries in embryology prompted debates on a range of problems such as conception, pregnancy and the life of the foetus. Within a fundamentally mechanistic viewpoint, the preformation thesis (other than ovist and animalculist versions) supported the idea of the foetus as a homunculus from the very moment of conception.¹⁰ In moral theology, one of the consequences could be that animation (in the sense of having a God-given immortal soul) took place at the same time as conception. This way of reasoning led to the obsession with baptising not only newborns upon delivery or the long-pregnancy foetus, but any embryo, regardless of age.¹¹

The above-mentioned Father Rodríguez, one of the eighteenth-century Spanish authors with a very extensive output in the field of medicine,¹² questioned what he considered 'commonplace opinion' regarding the animation of the human foetus. Based on Hippocrates' and Aristotle's authority, this opinion postulated the existence of an interval of time between fertilisation and animation, oscillating, depending on the case, between thirty days for males and ninety days for females. According to Rodríguez, 'recent advances in *Physica* and Medicine in the last century' had shown 'experimentally' that the embryo was animated from the very first day of conception.¹³

It was, precisely, 'modern experimental *Physica*' which gave theoretical support and demonstrative rigour to both of the theses put forward by Rodríguez regarding baptism. First, in the case of abortion, regardless of the embryo's age, baptism had to be administered immediately. Second, in the case of the death of the pregnant woman, caesarean section always had to be carried out, so that the still-alive foetus could be baptised. A whole series of considerations on the duties of civil and ecclesiastical authorities to regulate the administration of baptism in these two circumstances

9 Antonio José Rodríguez, *Nuevo aspecto de theología médico-moral, y ambos derechos, o paradojas physico-theológico-legales. Obra crítica, provechosa a párrocos, confesores, y profesores de ambos derechos, y útil a médicos, phylósofos, y eruditos*, 4 vols, 2nd ed. (Madrid, 1763), vol. 1, Paradoxa XI, Sentencia § II.6, p. 99 (1st ed. Madrid, 1742).

10 Shirley A. Roe, *Matter, Life, and Generation. Eighteenth-Century Embryology and the Haller-Wolff Debate* (Cambridge, 1981).

11 On this stance and others of that period, see the chapter entitled 'Momento de la animación del embrión', in Silverio Cerra Suárez, *Las ideas antropológicas de Feijoo I. La génesis del hombre* (Oviedo, 1987), pp. 362–70.

12 Luis S. Granjel, *El pensamiento médico del Padre Antonio José Rodríguez* (Salamanca, 1957).

13 'By the moment the egg is fertilised, and moves, the rational Soul must enter for, as its true form, it lavishes its faculties on all other functions': Rodríguez, *Nuevo aspecto de theología médico-moral*, p. 44. He returned to these same matters in volume four of his *Nuevo aspecto* (Madrid, 1767), vol. 4, pp. 7–25.

was derived from these two radical principles that Rodríguez considered were theologically and medically demonstrated.

Therefore, he claimed, parish priests had to be bound to adequately teach physicians, surgeons and midwives how to administer baptism; he championed this view in his ‘Memorial a los ilustrísimos y reverendísimos arzobispos y obispos de las Españas’¹⁴ [Memo to the most illustrious and most reverend archbishops and bishops of all Spains]. In complicated deliveries, he recommended intra-uterine baptism. Once the position of the head of the foetus had been detected or, failing that, of its chest, the surgeon or the midwife had to inject, by means of a syringe, the baptismal water while reciting the canonical formula for this sacrament. According to Rodríguez, this practice was ‘Parisian’ and had already been introduced in the Spanish court.¹⁵

In the case of caesarean section, parish priests had to ensure that the surgeon, the barber or the midwife knew how it should be carried out and, as a last resort, was ready to carry it out themselves. Rodríguez explains in detail what instruments parish priests had to possess and how they had to perform the caesarean section, following the directions of the French midwife-surgeon François Mauriceau.¹⁶

It is in this context that Rodríguez states his disapproving view of women’s capabilities in these difficult situations, when the women were faced with the slightest complication while assisting childbirth, in regard to their understanding of the correct administration of the sacrament of baptism and also concerning their capability of carrying out caesarean section *post mortem*. In fact, Rodríguez was convinced of the ‘simple-mindedness, ridiculousness, superstition and ignorance of women’¹⁷ and of midwives’ ineffectiveness: ‘some petty women commonly unfortunate, stupid, imbued with a thousand tall stories, and superstitions’.¹⁸ One could entrust these delicate tasks to women only in the case of their being properly examined by the *Protomedicato* – something Rodríguez himself recognised not to be very frequent.

Vicissitudes of Francesco Cangiamilia’s *Embriologia Sacra*

Twenty-five years passed between the publication of the first and the fourth volumes of the *Nuevo aspecto de theología médico-moral* [New aspects on medical-moral theology] by Rodríguez (1742–1767). According to him, the acute controversy raised in Spain after the publication of the first volume hindered the continuation of his work; however, this did not prevent its circulation in other Catholic countries, such as the kingdom of Naples and Sicily. From the monk’s point of view, the proof that his work ‘had moved the theological piety of Italians’ was the publication in Palermo of a book which included a large proportion of his thesis and his arguments,

14 Rodríguez, *Nuevo aspecto*, vol. 4, pp. 165–72.

15 Rodríguez, *Nuevo aspecto*, vol. 1, p. 96.

16 Rodríguez, *Nuevo aspecto*, vol. 4, pp. 40–7.

17 Rodríguez, *Nuevo aspecto*, vol. 4, p. 6.

18 Rodríguez, *Nuevo aspecto*, vol. 4, p. 171.

though it did not acknowledge its debt to him.¹⁹ It was *Embriologia Sacra*, written by the Sicilian priest Francesco Cangiamila, and published in 1745.

Sicily was the stage for most of the 'extraordinary' cases that were depicted in the book in order to persuade his readers of the need to champion baptism for any foetus suspected of being alive.²⁰ Despite his extremism, his recommendations enjoyed unconditional endorsement by public figures, significantly including the King of Naples and Sicily, the future King Charles III of Spain. As an example, let us consider the royal decree of 1749, which established the universal duty to carry out caesarean section *post mortem* under the slightest suspicion of pregnancy on the part of any deceased woman.²¹ Civil and ecclesiastic authorities had to assess the measures for this to be carried out. In principle, it was the surgeon's task, although in his absence, it was the midwife's or a physician's duty. Relatives, servants and neighbours were officially warned to notify the justice system of any suspicion of pregnancy or abortion (be it either voluntary or spontaneous) in order to reach the foetus in time for it to be baptised. Upon failure to comply, one could be charged with murder and put on trial.²²

In Spain, at first, Cangiamila's book drew some criticism. Thus, the *protophysician* Andrés Piquer produced in 1760, a 'Judgement on Cangiamila's Book', in which he seriously questioned some of the book's chief assertions.²³ Nevertheless, Cangiamila's book enjoyed great success in Charles III's Spain. In 1761, his Neapolitan minister Esquilache distributed the Latin version of *Embriologia Sacra* to all bishops in Spanish dioceses.²⁴ A few years later, the book was translated into Spanish, from a shortened French rendition made by father Dinouart.²⁵ We know, furthermore, that the parish priest of Tobarra, Ignacio Echenique, drew up a memo to the Count of Floridablanca, dated July 1784, in which, drawing on Cangiamila's recommendations, he endorsed a law obliging 'parish priests, mayors, physicians, surgeons and phlebotomists [the omission of midwives here seems utterly symptomatic] to bear the responsibility of

19 Rodríguez, *Nuevo aspecto*, vol. 4, p. 11.

20 Francesco Cangiamila, *Embriologia sacra o tratado de la obligación que tienen los curas, confesores, médicos, comadres, y otras personas, de cooperar a la salvación de los niños* (Madrid, 1785) (1st ed. Palermo, 1745). Cangiamila would subsequently become bishop of the diocese of Palermo and inquisitor of Sicily.

21 Cangiamila, *Embriologia sacra*, pp. 277–85. On caesarean section in the Catholic world, see Nadia Maria Filippini, *La nascita straordinaria. Tra madre e figlio la rivoluzione del taglio cesareo (sec. XVIII–XIX)* (Milan, 1995).

22 Cangiamila, *Embriologia sacra*, p. 284.

23 For instance, Cangiamila claimed that the parish priest should perform the caesarean section in the absence of an expert person. Piquer criticised this proposal in his 'Juicio de la obra intitulada Embriologia Sacra', in *Obras póstumas* (Madrid, 1795), pp. 122–48.

24 Minister Esquilache's letter was reproduced in Cangiamila, *Embriologia Sacra*, p. XI.

25 In Madrid, 1774. In 1772, another Spanish translation, abridged as well, had been published in Mexico. A review of the editorial fate of *Embriologia Sacra* in Spanish America can be seen in Paula de Demerson, 'La cesárea post mortem en la España de la Ilustración', *Asclepio* 28 (1976): 185–233; see pp. 195–7.

baptising any delivery or abortion product and even to carry out caesarean section on the corpse of any suspected pregnant woman'.²⁶

Childbirth Assistance and Clergymen's Populationist proposals

In the second half of the century, the moralists' standpoint on female- and male-midwives' job-ownership moved towards the point of indisputably taking for granted the assumption of the witlessness of female-midwives, women's inferiority and female-midwives' subservience to the male-midwife surgeon. As an example, here is the 1784 memo by the parish priest of Tobarra, recommending a strategy for the improvement of birth care in small villages, allowing women's involvement, but always 'under the surgeon's supervision'. Even more significant than the recommendation is the calamitous portrait this text gives of rural midwives:

In our Spain, outside the Court or some of the kingdom's main cities, the Trade or Body of Male-Midwives is unheard of, and this trade is only served, and the ceaseless needs in Childbirth helped by Women commonly known as childbirth midwives. These are rarely and only occasionally virtuous, experienced and skilful, and almost everywhere, outside Main Cities and big Towns, they are useless, without skill nor intelligence, and the source of the biggest misfortunes, fatalities and woeful Births, and that many Women end up aggrieved, wounded and even sterile ... As a Rule, in many places, above all Villages and Small Places, this trade of despicable and, not uncommonly, sinful and inebriated Women is called on: I speak out of experience in this my Village and other places where I have seen them in such circumstances, so that, despite my numerous warnings and guidelines, which I have repeatedly provided according to my Pastoral Ministry, distrusting the value of Baptism as conducted many times by them (if needed), always *ad cautelam*, I have poured the water again on the Newborns *sub conditione*.²⁷

The advocacy of populationist policies by some Enlightened clergymen would bring forth a new formulation of the moralists' standpoint on birth care, which can be read in the writings of two significant end-of-century authors: the expelled Jesuit Lorenzo Hervás y Panduro, and the Aragonese canon Antonio Arteta de Monteseguro.

Hervás y Panduro's concern for childbirth may be located within a noticeably populationist line of thought: the certainty that 'the existence and excellence of sciences and arts will not ever be achieved in the absence of a crowd of men'. All this will lead him to call, in his *Historia de la vida del hombre* [History of Mankind's Life], for 'the public government to think about improving the art of obstetrics by funding professorships and opening training schools to teach and test women-to-be midwives'.²⁸ However, as he assumed that such institutions would not be created immediately, Hervás recommended publishing for female-midwives 'a short, concise

26 Archivo Histórico Nacional, Madrid (onwards AHN), *Estado*, Leg. 2932, exp. 1.

27 AHN, *Estado*, Leg. 2932, exp. 1.

28 Lorenzo Hervás y Panduro, *Historia de la vida del hombre*, 7 vols (Madrid, 1789–99), vol. 1, p. 119. Hervás originally wrote this work in Italian (*Istoria della vita dell'uomo*, 8 vols, included in *Idea dell'universo*, 21 vols, Cesena, 1778–87). The Spanish edition, seemingly translated and revised by Hervás himself from Rome, met countless vicissitudes and the last

and clear guide on the description of causes and solutions for difficult births', and on everything concerning the urgent carrying-out of baptism.²⁹ It seems quite clear that the example of some Italian States, where numerous training schools for midwives were already in place, carried significant weight in Hervás' proposals for Spain.³⁰

It is at this point where he clarifies his standpoint on the proper involvement of women in midwifery, assigning them a merely subsidiary role when considering that only men were able to 'possess' this art 'up to perfection'. This female lack of obstetrical skill is consistent with the idea of women's intellectual weakness, which repeatedly occurs in his writings.³¹ It is not odd, therefore, in the exposition of his ideas on childbirth, for him to condemn female-midwives' clumsiness; but Hervás went one step further and accused them of being the main cause of most skull malformations and mental deficiencies, to the point of maintaining that they were to blame for 'the steadily growing number of dunces'.³² Once women's intellectual inferiority was accepted, his advocacy for training on obstetrics nevertheless had some hopeless flaws. Through such recommendations, apparently 'unbiased' due to his lack of professional interests in the field of medicine, Hervás, supported on his erudite ecclesiastic Catholic moralist authority, approved the art of midwifery to belong to the field of surgery and, therefore, midwives' subservience to male-midwives.

Directly inspired by the populationist standpoint of Hervás the Jesuit, Antonio Arteta de Monteseuro, a canon of the chapter of Saragossa, in the first volume of his well-known *Disertación sobre la muchedumbre de los niños que mueren en la infancia* [Dissertation on the Crowd of Children who die in Childhood], advocated the need to face up to the high abortion rates of the day; he deemed it impossible to estimate the number of abortions due to the fact that, as a general rule, women used to conceal them from physicians, surgeons and even midwives.³³ Just like Hervás, Arteta condemned the 'unskilful handling by female-midwives', blaming them for the 'very high number of women and children who die and become crippled or poorly healthy'. In contrast, he maintained that the art of midwifery, as it was known by 'the most capable male-midwives', should only be applied in critical circumstances, such

volume was never published. Luis S. Granjel, 'Las ideas antropológicas de Hervás y Panduro', in *Humanismo y medicina* (Salamanca, 1966), pp. 315–63.

29 Hervás y Panduro, *Historia de la vida del hombre*, vol. 1, p. 116.

30 On Italian midwives' officially sanctioned training through the second half of the eighteenth century, see Filippini, 'The Church, the State and Childbirth', pp. 161–4.

31 For instance: 'Women universally possess weaker body and spirit than men. Regarding this, Nature leads us to believe that they were not made for high science, nor for great hardship or physical work' (Hervás y Panduro, *Historia de la vida del hombre*, vol. 1, p. 117).

32 Hervás y Panduro, *Historia de la vida del hombre*, vol. 1, p. 113. It might seem surprising for Hervás to follow J. O. de La Mettrie, French physician and materialist philosopher, on this point, when he could have turned to other authorities, more orthodox on religious matters.

33 Antonio Arteta de Monteseuro, *Disertación sobre la muchedumbre que mueren en la infancia y modo de remediarla, y de procurar en sus cuerpos la conformidad de sus miembros, robustez, agilidad y fuerzas competentes*, 2 vols (Saragossa, 1801–2), vol. 1, p. 52.

as the mother's extreme weakness, or in difficult births due to the foetus' wrong position.

Arteta thought, following Geneva's philanthropist Ballexsferd, that nature itself carries out childbirth. Yet again, he agreed with Hervás by recommending funding for professorships and establishing training schools for obstetrics where 'women-to-be midwives were taught and tested', and even adding that, in the Schools of Surgery in Madrid, Cádiz and Barcelona 'this art is taught to perfection: they own dummies and wax models exemplifying a range of foetal positions, and women who want to be midwives are trained on an individual basis: not a single one of them is allowed to carry out the job without the approval of those Schools'.³⁴

The acceptance on the part of Spanish authorities of the moralists' proposals regarding baptism in cases of abortion, caesarean section and difficult deliveries, had its logical repercussions in the American colonies. The publication of a series of brief treatises summarising Cangiamila's and Rodríguez's claims was accompanied by several decrees, in which civil and ecclesiastical authorities enacted policies to regulate childbirth assistance as well as to lay out the duties of priests, surgeons, midwives and all others in attendance.³⁵ Finally, in 1804, King Carlos IV published the Royal Bond requiring civil and religious authorities in America and the Philippines to ensure that no pregnant woman would be buried before carrying out a caesarean section and the subsequent baptism of the foetus. The fact that this law was directly written by the masters of the Real Colegio de Cirugía de San Carlos [Saint Charles' Royal Surgery School] in Madrid³⁶ is a clear symptom of the position that the figure of midwife-surgeon had reached in Spain and its overseas dominions.

A Singular Position: Benito Jerónimo Feijoo and his *Defensa de las mujeres*

Simultaneous with the publication of Cangiamila's book and therefore shortly after Rodríguez's, another distinguished Spanish monk, Benedictine Father Benito Jerónimo Feijoo, tackled the subject of birth care, specifically the question of who was to perform the art of midwifery. Feijoo occupies a quite singular position as the only one to uphold female midwives' hegemony, based on his conviction of women's boundless intellectual capabilities and, consequently, of his assumption that, given adequate training, they could be entirely in charge of obstetrics.

Feijoo formulated the question about who was to help women in delivery because of moral order. Decency did not favour male presence and handling of the body of the woman-in-labour: hence the title of one of his *Erudite Letters: Most Decent Use of the Art of Obstetrics*.³⁷ That is, it was a question of decency which, in 1745, made

34 Arteta de Monteseuro, *Disertación sobre la muchedumbre*, vol. 1, p. 74.

35 For Puerto Rico, see José G. Rigau-Pérez, 'Surgery at the Service of Theology: Postmortem Cesarean Sections in Puerto Rico and the Royal Cedula of 1804', *Hispanic American Historical Review* 75 (1995): 377–404.

36 Michael E. Burke, *The Royal College of San Carlos. Surgery and Spanish Medical Reform in the Late Eighteenth Century* (Durham, NC, 1977), p. 130.

37 Benito Jerónimo Feijoo, *Cartas eruditas y curiosas* (1745), 5th ed. (Madrid, 1781), vol. 2, letter 17, pp. 267–72.

him tackle this issue, in a period of his life (he was already close to 70) in which he enjoyed an undeniable renown and his writings were among the most popular in Spain.³⁸ Feijoo paying attention to this issue means, at least, that by the mid eighteenth century, male involvement in birth care was far from uncommon, yet not the rule. The role of the male-midwife, as we have shown, had already burgeoned and only required authorised sanction by a renowned Catholic moralist.

But in fact, Feijoo was dealing with two distinct problems: on the one hand, the problem of women's virtue being harmed by male-conducted childbirth assistance; on the other hand, the problem of the widespread notion of female-midwives' ignorance being a source of danger for the health of both mother and child and, in some cases, for the salvation of the foetus's soul.³⁹ Between the two evils, Feijoo pragmatically chose the less hazardous side: to allow male-midwives' assistance and, therefore, not to restrict this task to women. Feijoo admits that in those days women were mostly uneducated in the 'art of midwifery' and he saw the need to condemn it publicly. On too many occasions, he adds in his criticism of female-midwives, their mistakes had to be fixed by 'a capable man once the midwife left the woman in labour at the gates of death'.⁴⁰

Unfortunately a superficial reading of this text, a reading stressing the criticism given to female-midwives alongside praise for male-midwives, has yielded an absolutely distorted image of Feijoo's opinion on this issue. Manuel Usandizaga, as an outstanding example, in his *History of Obstetrics and Gynaecology in Spain*, maintains without hesitation that the Benedictine defended 'the intervention of men, as being more proficient and capable'.⁴¹ However, Feijoo's true stance was quite different. Let us take a look at it.

From his Catholic moralist standpoint with pragmatic interests, the Benedictine established a scale of values for this issue. First, he criticised the qualms adduced by many of the women of those day who, in defending their virtue, rejected 'the male's hand in any part of their bodies', especially when in labour. These women's radical stand was, for Feijoo, rash and unsuitable: 'it is befitting, I say, for a woman to sacrifice her life to her decency. But, by what rule will a mother sacrifice her innocent foetus' life? And not only the transient but the everlasting life as well?' That is, pleading for the mother's virtue should jeopardise neither her child's life nor, least of all, the redemption of her child's soul. Decency knew, therefore, its bounds. Consequently, Feijoo sanctioned, as a lesser evil, male-midwives' assistance in deliveries.

Second, and this is essential to understand his standpoint on this issue, he made clear that this was a temporary solution, while adequately trained female-midwives were not yet available. That is, for Feijoo, the pertinent solution to this issue would be the proper training of female-midwives in order to guarantee sound birth care;

38 Francisco Sánchez-Blanco, 'Feijoo y sus contemporáneos', in *La mentalidad ilustrada* (Madrid, 1999), pp. 61–122.

39 Amalio Telenti, *Aspectos médicos en la obra del maestro Fray Benito Jerónimo Feijoo* (Oviedo, 1969) pp. 248–52.

40 Feijoo, *Cartas eruditas*, p. 268.

41 Usandizaga, *Historia de la obstetricia*, p. 215.

when this had been achieved, then men should be excluded from such duty. Feijoo harboured no doubts about women's capability to learn this art; it was solely a teaching question:

Yet if it would be possible to undertake measures for women to be well trained in this art, men should be entirely excused of this trade. And would it be possible to take these measures? Doubtlessly. Some distinguished practitioners could be recruited through generous awards to efficiently teach several capable women, who thereupon would teach others, and so on. The trade is sufficiently lucrative such that enough impoverished women would be eager to learn it.⁴²

To support his recommendation, Feijoo quoted, in his *Carta erudita*, Agnodice's fable, the maiden who attained for women in Athens,⁴³ the right to carry out obstetrics and medicine, and maintained that women had no less capability than men 'to carry out the most difficult surgical procedures'. In his letter, Feijoo concluded this argument by reiterating his reliance on women's capability for the art of midwifery: 'For the distinctive craft of puerperal care, given equal training, I do not see how men can be presumed to have better aptitude than women.' Feijoo's reluctance to accept women's assumed inferiority, and his reliance on women's boundless capability to learn, was not restricted merely to the mechanical or manual aspects of an art such as midwifery. It was simply the application of tenets already introduced in his previous writings. Trust in women's intellectual capabilities was a staple in his work. Let's recall, for instance, his text entitled 'Defence of Women', included in the first volume of his *Theatro crítico universal* [Universal Critical Theatre] from 1726, a comprehensive and reasoned assertion in favour of women's ability 'for all kinds of sciences and sublime knowledge'.⁴⁴ Years later, when applying the notion of male-and-female equality to the art of midwifery, by paying attention to the question of virtue, Feijoo advocated women's right to exclusively carry out this job.

However, Feijoo himself was pointing, perhaps unwillingly, at other no less important aspects of the argument: on one hand, obstetrics was already a field of knowledge, or better an art, carried out to perfection by 'some distinguished [men]' and, of course, not by women; and, on the other hand, the job was a reliable source of income, making it tempting for those who 'would eagerly apply themselves to it'. According to the outcome, it seems that distinguished men lacked the will – that is, interest – for this business to develop exclusively for female-midwives. Taking into

42 Feijoo, *Cartas eruditas*, p. 269.

43 Hyginus, *Fabulae*, 274, quoted by A.E. Forcellini, *Onomasticon. Lexicon totius latinitatis* (Padua, 1940), vol. 5, p. 69.

44 Benito Jerónimo Feijoo, *Theatro crítico universal* (1726), 5th ed. (Madrid, 1781), vol. 1, Discurso XVI, pp. 386–473. This text was translated into English and published twice: first as, *An Essay on the Learning, Genius, and Abilities, of the Fair-Sex Proving Them not Inferior to Man, from a Variety of Examples, Extracted from Ancient and Modern History* (London, 1774); and second, four years later, included in *Three Essays or Discourses on the Following Subjects: A Defence or Vindication of the Women, Church Music, a Comparison between Ancient and Modern Music* (London, 1778).

account the complex frame of competencies and professional interests involved, as described above, Feijoo's recommendation couldn't be more naïve.

An Eloquent Silence: Midwives

In light of what we have seen so far about the debates concerning midwives' skill in birth care and the male-midwife surgeons' ever-increasing hegemony on a stage where they had been heretofore absent, it is essential to ask how midwives themselves responded, for theirs was the point of view of those who did not leave any written documentation and ended up subservient or ostracised.

Among eighteenth-century Spanish midwives, there are none quite like Mme Du Coudray,⁴⁵ Custine Siegemund⁴⁶ or Elizabeth Nihell,⁴⁷ who were members of the most educated layer of midwives in France, Prussia and England, as well as being public advocates of their trade, of the right to practise it and to have access to knowledge and techniques that would allow its improvement. As far as we know, Spanish midwives did not leave any published text and, as a rule, their names have vanished into anonymity, when not mentioned in passing in administrative paperwork.⁴⁸ The case of Luisa Rosado (1765–71), midwife at the House of the Helpless in Madrid, is the best known to date, thanks to Teresa Ortiz's work.⁴⁹ Though she did not publish any of her writings, her memos to the King and the Court of the *Protomedicato*

45 Author of an *Abrégé de l'art des accouchements* (Paris, 1759), Du Coudray was an active organiser of instruction for more than 5000 midwives throughout French territory between 1760 and 1783. See: Jacques Gélis, 'Sages-femmes et accouchères: l'obstétrique populaire au XVII et XVIIIe siècles', *Annales économies, sociétés, civilisations* 32 (1977): 927–57; and Nina Gelbart, 'Midwife to a nation: Mme Du Coudray serves France', in Marland (ed.), *The Art of Midwifery*, pp. 131–51.

46 Waltraud Pulz, 'Aux origines de l'obstétrique moderne en Allemagne (XVIe–XVIIIe siècle): accoucheurs contre matrones?', *Revue d'histoire moderne et contemporaine* 43–4 (1996): 593–617.

47 Author of a *Treatise on the Art of Midwifery* (London, 1760). See Wilson, *The Making of Man-Midwifery*, pp. 198–202.

48 For instance, the register of midwives in Madrid, prepared by order of the Council of Castile on 1790, and brought to light by E. Montagut, 'Comadronas en el Madrid de fines del Antiguo Régimen', *Boletín de la Sociedad Económica Matritense de Amigos del País* 3 (1991): 173–89; or the presence of midwives in the pastoral visitors' book of the archbishopric of Seville, studied by Manuel J. García, Juan J. Valle and Antonio C. García, 'Registro y control de Matronas por la Iglesia Hispalense', *Hiades. Revista de Historia de la Enfermería* 1 (1994): 13–33; or figures regarding midwives in Andalusia drawn from the *Catastro de Ensenada*, and prepared by Teresa Ortiz, Carmen Quesada, José Valenzuela and Mikel Astrain, 'Health Professionals in Mid-Eighteenth-Century Andalusia: Socio-Economic Profiles and Distribution in the Kingdom of Granada', in John Woodward and Robert Jütte (eds.), *Coping with Sickness: Historical Aspects of Health Care in a European Perspective* (Sheffield, 1995), pp. 19–44.

49 Teresa Ortiz, 'Luisa Rosado. Una matrona en la España ilustrada', *Dynamis* 12 (1992): 323–46; Teresa Ortiz, 'From Hegemony to Subordination: Midwives in Early Modern Spain', in Marland (ed.), *The Art of Midwifery*, pp. 95–114.

reveal a woman who was convinced of the dignity of her trade and of her ability to carry it out, and who defended her skill against any constraints imposed by the authorities.

Among authors who published medical or educational writings in eighteenth-century Spain, we may point out a woman, Josefa Amar y Borbón, who, in 1790, published a *Dissertation on Women's Physical and Moral Education*, where she devotes a chapter to childhood illnesses in which she shows a level of knowledge of the subject that would doubtlessly have derived from the physicians' environment where she had been educated. On the other hand, four years before, Amar had submitted a memo to Madrid's Sociedad Económica de Amigos del País, titled 'On the Admission of Women to the Society'.⁵⁰

A first reading reveals that Amar does not directly deal with our issue in any of those texts, though it is inconceivable for her not to have been familiar with it. By way of example, suffice it to mention her father, *protomédico* José Amar's signature in all documentation regarding midwife Luisa Rosado.⁵¹ Perhaps she thought it more judicious not to take part in a debate with a bearing on a professional conflict between physicians, midwives and surgeons.

In her 1786 memo, midwives do not seem to be part of Amar's scope. Her advocacy of female intellectual capabilities in such a concrete context makes her focus on ladies who could have a chance to claim a spot within institutions such as Madrid's Sociedad Económica; her readers would not have been receptive about work-related problems of a professional body whose members (as Amar herself pointed out elsewhere) 'had to work physically in order to earn a living'.⁵²

In the *Dissertation*, on the contrary, there was a distinct opportunity to take on the issue of midwifery and birth care in the second chapter of the first part, titled 'On Childbirth and Breast-Feeding'. However, Amar restricts herself to writing that 'we should assume that everything concerning childbirth will turn out soundly *if assistants do not hinder it*',⁵³ an impersonal plural is written just where any other author would have thrown an invective on female-midwives' incompetence. That sums up her contribution to the debate.⁵⁴

50 This memo is dated in Saragossa, on 5 June 1786, and was published that same year, under the title 'Discurso en defensa del talento de las mujeres', *Memorial literario* 8 (1786): 400–30. The 'Discurso' was read in the *Junta de la Sociedad Económica Matritense* on 24 June 1786. It is completely transcribed in Olegario Negrín, *Ilustración y educación. La Sociedad Económica Matritense* (Madrid, 1984), pp. 162–76.

51 Ortiz, 'Luisa Rosado. Una matrona', pp. 337–46.

52 Josefa Amar y Borbón, *Discurso sobre la educación física y moral de las mujeres* (Madrid, 1790), ed. by María Victoria López Cerdón (Madrid, 1994), p. 80.

53 Amar y Borbón, *Discurso sobre la educación*, p. 89 (emphasis in the original).

54 It is true, however, that in another place of the *Discurso* there is an extremely brief allusion to midwives, though of very limited significance and on a matter somehow removed from specifically aiding childbirth: 'it is necessary for midwives and other women as well who commonly help delivering to make sure not to get involved in solving the defects they imagine regarding the configuration of newborns' heads'. Amar y Borbón, *Discurso sobre la educación*, p. 104. This bad habit was denounced by both Diderot and Mme Du Coudray, see Gélis, 'Sages-femmes et accouchères', p. 931.

As far as we can say, the reasons to explain this conspicuous silence must be looked for in the threefold quarrel – professional, moral and regarding gender – that lies hidden beneath these controversies. On one hand, Josefa Amar was silenced on the professional strife as she was the daughter and grand-daughter of *protomédicos*, that is, of the highest level medical authorities, who were, therefore, ultimately responsible for legislative measures and control of health-related occupations. On the other hand, there was a moral side of the conflict which was the field of theologians and moralists, a territory for a woman to prudently stay away from; above all when she was already probing grounds where women were not traditionally allowed. And finally, this was a conflict lying on the difficult border between gender and social class: midwives, in spite of being some of the very few women with an undeniable public domain and socially sanctioned to practise their trade, did not carry much weight for a woman who was addressing and moving in society's privileged layers.⁵⁵

Josefa Amar's silence is eloquent. The alliance among physicians, surgeons and Enlightened moralists was strong. Moralists' idea of women's insufficient capability for birth care, so distant from the standpoint Feijoo had held just a few decades before, took for granted women's intellectual and physical incompetence in relation to men. Doubtlessly, this was a powerful argument to advise women's ousting from a task hitherto commonly considered as female-related. Midwives' subservience to surgeons was definitively sanctioned by the moralists' point of view, who ended up embracing, together with physicians and surgeons, the commonplace notion of female-midwives' incompetence, and sanctioning with their authority male-midwives' supremacy.

55 The addressed readers, at least according to the author's intention, are clearly specified in a passage of the *Discurso*: 'this *Discurso* is directed to the ladies...', Amar y Borbón, *Discurso sobre la educación*, p. 111.

Medicine, History and Religion in Naples in the Seventeenth and Eighteenth Centuries¹

Maria Conforti

Naples was one of the largest and most celebrated cities in Europe in the seventeenth and early eighteenth centuries, second only to Paris in population. Nonetheless, for all the pride of its admirers, *Partenope* was slowly declining from the high position it had held in the Renaissance. The Siren's charms were mostly evident in the virtual realms of music, literature and eulogy. On the whole, Naples and the Kingdom presented a situation of political, economical and indeed geological instability that has been described at length by impassioned historians. To a large extent, the peculiarities of Naples as a city – a large, overcrowded, poor, economically dependent urban centre – were interwoven with its position as the political and intellectual centre of the Kingdom. This determined the specific turn that intellectual and scientific debate took in Naples, where awareness of the need for institutional and political change developed into a sort of Enlightenment *avant la lettre*.² The middling class – the *ceto civile*, mainly consisting of professionals, lawyers and physicians, tradesmen and 'artisti' – struggled to gain political recognition, which also implied the recognition of 'modern' political, religious and scientific opinions, what was called 'libertas philosophandi'. A sizeable section of the *ceto civile* openly admired the free Netherlands (*libera Olanda*) and approved of its successful revolt against the Spanish government.

Despite being what the Neapolitan Nicola Cirillo (1671–1735), a physician and a Fellow of the Royal Society, described in 1725 as the 'ultima Thule' of Europe, the city was remarkable for its intellectual liveliness.³ Restlessness was not confined

1 I wish to thank Antonio Clericuzio, Pietro Corsi and Silvia De Renzi for reading and discussing this paper, and the participants at the Cambridge conference for their helpful suggestions. I am also indebted to Paul Metcalfe for his kind assistance with my English.

2 On Naples in this period see G. Galasso, *Napoli spagnola dopo Masaniello. Politica cultura società* (Florence, 1982); for a recent survey mainly devoted to the eighteenth century, but nonetheless in many respects also useful for the late seventeenth century, G. Imbruglia (ed.), *Naples in the Eighteenth Century: Birth and Death of a Nation State* (Cambridge, 2000); on the financial situation of the Kingdom, A. Calabria, *The Cost of Empire: The Finances of the Kingdom of Naples in the Time of Spanish Rule* (Cambridge, 1991).

3 'In ea enim vivimus Mundi regione, in qua ea bonarum Artium egestate, ut nec Artificem habeamus, a quo vel simplicissimae Machinae constructionem sperare possimus: ut sane nostra haec Italiae extremitas, Eruditi Orbis ultima Thule vere dicenda videatur' [We live in a region of the World where Arts are so badly cultivated, that we lack skilled artisans by whom we may hope the construction of even the simplest instrument. In fact, it is not a

in this comparatively remote backwater to criticising the Spanish monarchy or the institution of monarchy itself, as was the case during the anti-Spanish revolt of 1647. Religious unorthodoxy was fairly widespread in the city even outside such learned circles as the one gathered around Juan de Valdés (1500–1541) in the sixteenth century or the Quietist groups active in the late seventeenth century.⁴ In the late nineteenth century, the medical historian and surgeon Luigi Amabile (1828–92) meticulously reconstructed the history of the activities of the Tribunale della Santa Inquisizione in Naples, which was indeed a busy institution. Amabile, himself a liberal and anticlerical, proudly drew attention to the great many physicians and medical practitioners to be found among the accused.⁵

Naples was a city where the thirst for information about new scientific developments was as strong as the tendency to transform them into *theories* – and into philosophical and historical debate – more than into scientific *practice*. In point of fact, the seventeenth century shows no signs of decline in the standards of scientific and intellectual debate or in the means of rapidly obtaining information about foreign advances. It must not be forgotten that this was one of the Italian centres for clandestine printing and the exchange of books.⁶ There is, however, little sign of experimental and mathematical science actually being practised in Naples. Apart from heated debate on atomism, the city and the Kingdom appear to have made no significant contribution to mathematics, astronomy, mechanics or the emerging science ‘of waters’, with the possible exception of the mathematical works by Antonio Monforte and Giacinto De Cristofaro (1664–1725).⁷

Medicine and the life sciences were in a somewhat different situation.⁸ The debate on anatomy, therapeutics, chemistry, iatromechanics, botany and surgery was of a very high level, as were medical practice, university education and informal teaching at the hospitals.⁹ The surgeon Marco Aurelio Severino (1585–1656) was a fascinating

mistake to call our motherland, which is situated in the extremity of the Peninsula, an Ultima Thyle of the learned world]: Royal Society Archives, Cl. P. V 27, Nicola Cirillo, *Journal of the Weather* (Naples, 1725). On the scientific life in Naples, M. H. Fisch, ‘The Academy of the Investigators’, *Science, Medicine and History: Essays in Honour of Charles Singer* (London, 1953), pp. 521–63; M. Torrini, ‘L’Accademia degli Investiganti. Napoli 1663–1670’, *Quaderni storici*, 48 (1981): 845–83.

4 R. De Maio, *Società e vita religiosa a Napoli nell’età moderna* (Naples, 1971).

5 L. Amabile, *Il Santo Ufficio dell’Inquisizione in Napoli* (Città di Castello, 1892).

6 On book trade and censorship in Naples see P. Lopez, *Inquisizione, stampa e censura nel Regno di Napoli tra Cinquecento e Seicento* (Naples, 1972).

7 F. Palladino, ‘La matematica a Napoli nel Seicento e i suoi rapporti con l’Italia e l’Europa’, *Giornale critico della filosofia italiana* (1988): 548–72.

8 On medicine in Naples in the early modern period, see the works by David Gentilcore, and especially *Healers and Healing in Early Modern Italy* (Manchester, 1998).

9 On hospitals in Naples see G. Muto, ‘The Form and Content of Poor Relief in Early Modern Naples’, in A. Calabria and J. Marino (eds), *Good Government in Spanish Naples* (Basel, 1990); for a broader survey, see O.P. Grell and A. Cunningham, ‘The Counter-Reformation and Welfare Provision in Southern Europe’, in O.P. Grell, A. Cunningham and J. Arrizabalaga (eds), *Health Care and Poor Relief in Counter-Reformation Europe* (London, 1999), pp. 1–17.

and complex personality.¹⁰ Unfortunately, he was also the last medical practitioner living and working in the Kingdom able to boast an international reputation and contacts with the European scientific and learned community, being a correspondent of William Harvey, Thomas Bartholin, Johann Vesling and many others. Directly or indirectly, Severino educated two or three generations of pupils and pupils of pupils, among them the learned apothecary Giuseppe Donzelli (1596–1670), author of a highly successful work on pharmacy, the Helmontian Sebastiano Bartoli (1629–76), the Cartesian Tommaso Cornelio (1614–84), and the medical historian and sceptic Leonardo Di Capua (1617–95). Luca Tozzi (1638–1717), Luc'Antonio Porzio (1639–1724) and Nicola Cirillo, three distinguished university teachers active at the beginning of the eighteenth century, also proclaimed themselves to be followers of 'modern' medical theories concerned respectively with medical systems, anatomy and iatrochemistry. All these men occupied important positions in Italian medicine in the wake of the Enlightenment. Nearly all these men also wrote on history – both 'ancient' and contemporary – or composed works dealing directly with medical history and tradition.

Discussion on the origins and development of beliefs and religions, arts and sciences – particularly medicine – continued for decades in Naples. Two books were published in Naples in the 1720s that build upon this debate, which also marked a turning point in Italian and European theory – and practice – of history. The first, almost totally ignored when it first appeared, is Giambattista Vico's (1668–1744) *Scienza nuova* (first Latin edition 1725, main edition 1744), widely known today as one of the first attempts to trace the remote history of mankind on an anthropological and cultural basis, as well as one of the first vivid descriptions of a 'prehistory' of human life and knowledge.¹¹ Vico has been generally regarded as a pious Catholic advocating a providentialist vision of history, a questionable view in itself and one recently rebutted by the discovery that the Holy Office detected significant errors in his works.¹² The second, the *Istoria civile del Regno di Napoli* (1723) by Pietro Giannone (1676–1747), caused uproar at the time of its publication but is not as well known today as it deserves to be. Despite its title, the *Istoria civile* also addressed issues such as the early history of the Church, the struggle between Church and Empire, as exemplified in the protracted conflict between the Kingdom and Rome, the origins of Roman law, and the foundations of the early modern state and political system. Giannone's masterpiece, the *Triregno*, was devoted to the history of the

10 On Severino see C. Schmitt and C. Webster, 'Harvey and M.A. Severino: a neglected medical relationship', *Bulletin of the History of Medicine* 45 (1971): 49–75, and 'Marco Aurelio Severino and his Relationship to William Harvey: Some Preliminary Considerations', in A.G. Debus (ed.), *Science, Medicine and Society in the Renaissance: Essays to Honour W. Pagel* (New York, 1972), vol. 1, pp. 63–72; recent works by Oreste Trabucco, and especially 'Anatome codex Dei: natura e conoscenza scientifica nella Zootomia democritaea di Marco Aurelio Severino', in *Sciences et religions de Copernic à Galilée, 1540–1610. Actes du Colloque international organisé par l'École française de Rome* (Rome, 1999), pp. 385–409.

11 On Vico and the Neapolitan context G. Mazzotta, *The New Map of the World: the Poetic Philosophy of Giambattista Vico* (Princeton, NJ, 1999).

12 G. Costa, *Malebranche e Roma: documenti dell'archivio della Congregazione per la dottrina della fede* (Florence, 2003).

three kingdoms: the earthly, the heavenly and the papal (that is, the Church as a political institution). The book was written from a materialistic and freethinking – if not overtly atheistic – standpoint.¹³ Despite its renown and clandestine circulation, the work remained unpublished until 1895 because of its author's imprisonment for heresy after a lifelong struggle against the Inquisition. Having enjoyed the patronage of Eugene of Savoy and the intellectual brilliancy of the Viennese court at the beginning of the eighteenth century, Giannone somewhat paradoxically ended his life in a remote and gloomy Piedmontese castle, the prisoner of Carlo Emanuele III, king of Savoy.

Both these works, the *Scienza nuova* and the *Istoria civile*, have been described by Idealism as the product of isolated geniuses. As more recent historiography has shown, however, the very opposite is true.¹⁴ Vico and Giannone were active members of the local intelligentsia; in addition to writing historical works, both had a great interest in the sciences and especially in medicine, the leading and most innovative science at the time of their education in the 1680s and 1690s.¹⁵ The context of their education and philosophical background has been reconstructed over the last few decades, but the contribution of medical history to the creation of the 'new history' of the early eighteenth century – and to its critique of received ideas about the origins and political meaning of religion – has been somewhat overlooked.¹⁶

An interest in history was common among European physicians and medical practitioners. The importance of the analytical examination of works by ancient authors in the standard medical education largely accounts for this 'physicians' philology', but there are still other reasons. The grounding of medical knowledge in a set of observable signs related to invisible conditions – an approach doctors share with historians – shaped their conception of *experientia* and the very meaning of medical 'facts'.¹⁷ The physicians in Naples were no exception. They developed a great interest in some of the issues that were soon to be addressed by pre-Enlightenment historians, namely the problem of historical truth, the question of primitivism and remote antiquity, which was closely connected with Biblical interpretation and the early modern origins of Biblical philology, and the question of the remote origins of human arts and sciences.¹⁸ Physicians were also familiar with one of the favourite

13 On Giannone, G. Ricuperati, *L'esperienza civile e religiosa di Pietro Giannone* (Milan, Naples, 1970).

14 Beginning with N. Badaloni, *Introduzione a Vico* (Milan, 1961).

15 This is apparent from their autobiographical works.

16 Badaloni has insisted on Di Capua's influence on Vico's thought: *Introduzione*, chapter 4.

17 A. Momigliano, 'La storia tra medicina e retorica', *Tra storia e storicismo* (Pisa, 1985), pp. 11–32; N. Siraisi, 'Anatomizing the Past: Physicians and History in Renaissance Culture', *Renaissance Quarterly* 53 (2000): 1–30; N. Siraisi, 'History, Antiquarianism, and Medicine: The Case of Girolamo Mercuriale', *Journal of the History of Ideas, The Uses of Historical Evidence in Early Modern Europe*, issue ed. by J. Soll (2003): 231–51. On the doctrine of signs in Renaissance learned medicine, I. MacLean, *Logic, Signs and Nature in the Renaissance* (Cambridge, 2002).

18 P. Rossi, *I segni del tempo. Storia della terra e storia delle nazioni da Hooke a Vico* (Milan, 1979); A. Grafton, *Defenders of the Text. The Traditions of Scholarship in an Age of*

genres of late Renaissance historiography: biography. It could be argued that their interest in biographies was fuelled by their work with ‘case histories’. Biographies are as important in shaping identities, including professional identities, as they are likely to pose problems regarding the role of individuals – outstanding or otherwise – in history.¹⁹

I shall briefly outline some cases of histories of medicine written in Naples during the ‘long seventeenth century’ prior to Vico and Giannone, seeking to trace the interweaving of religious, philosophical and historical matter at the heart of their narratives as well as their function and uses in defining the boundaries within the medical professions. I shall argue that the local debate on the history of medicine (and science) strongly influenced the development of a broader discussion of history itself. The debate over the early history of medicine and the sciences had a marked influence on Vico’s theory of the origins of human knowledge and on the development of the entirely new history of the origins of the Church and other religious institutions to be found in Giannone’s works. In particular, medical history offered insights into the interplay of ‘primitive’ passions, beliefs and needs to be found at the origins of human cultural history as opposed both to the humanistic tradition of a *prisca sapientia* and to the Christian idea of human history beginning with revelation and prophecy.

Barber-Surgeons at the Origins of Civilisation

The first author I wish to present in order to illustrate the context outlined above is not an author at all, at least not in the strict sense of the term, since his authorship is hidden beneath the name of another person. The title page of the book in question presents it as *Il Barbiere* by Tiberio Malfi. The book was first published in 1626.²⁰ Malfi was the consul of the city guild of barber-surgeons and enjoyed quite an exceptional career subsequent to the publication of this work. In 1650 he published a religious work entitled *Riflesso dell’uomo interiore, ove con semplice stile in forma di dialogo s’intruisce l’anima nella cognitione di se stessa e di Dio*, which appeared

Science, 1450–1800, (Cambridge, MA, 1991).

19 Nancy G. Siraisi, ‘The Physician’s Task: Medical Reputations in Humanist Collective Biographies’, in N. Siraisi and A.C. Crombie (eds), *The Rational Arts of Living* (Northampton, MA, 1987), pp. 105–33.

20 *Il Barbiere di Tiberio Malfi da MonteSarchio Barbiere, e Consule dell’Arte in Napoli Libri Tre. Ne’ quali si ragiona dell’eccellenza dell’Arte, e de’ suoi Precetti. Delle Vene, e regole d’aprire; Dell’applicazione de’ remedi chirurgici appartenenti al mestiere. Con Figure Anatomiche, e di nuovi strumenti*, (Naples, 1626); the book was reprinted some years later, with a slightly different title: T. Malfi, *Nuova prattica della decoratoria manuale et della sagnia; l’una a barbieri, et l’altra a chirurgici singolarmente necessaria, con le cose Anatomiche: con nuovi Instrumenti, & con le operationi varie dell’Artifice per vaghe Figure evidentemente rappresentate* (Naples, 1629).

in numerous reprints. Malfi is also probably to be identified with the founder of a hospital for 'poveri cionchi' (poor cripples) in the same period.²¹

A hand-written note in one of the manuscripts of Marco Aurelio Severino in the Lancisiana library in Rome suggests, however, the *Il Barbiere* is actually his work.²² A learned physician and surgeon, Severino has already been mentioned as one of the leading figures on the medical scene in Naples in the early decades of the seventeenth century. In addition to treating the cream of the Neapolitan nobility, he was a respected teacher at the university and at the Ospedale degli Incurabili, one of the largest in the city. He also was a skilled anatomist and 'zootomist', and one of the founders of the European tradition of comparative anatomy. Severino was placed on trial by the Inquisition Tribunal. A follower of Tommaso Campanella, himself imprisoned in Naples for many years, Severino stated that the 'maestro' had 'often told [him], with examples, that he had learnt more from practitioners of mechanical arts than from many books'.²³ His closeness to and admiration for the work of skilled craftsmen and artisans probably accounts for his writing a treatise devoted to the barber-surgeon, showing the antiquity and hence nobility of this profession, an attitude rarely adopted by a learned physician.

Though somewhat patronising, the cooperation between Severino and Malfi tells us a great deal about the relationships between the medical professions in early modern Naples.²⁴ Surprisingly enough, Malfi was not the only barber-surgeon to enjoy a good position in the Accademia degli Oziosi (founded by the Marquis of Manso, former patron of the poet Torquato Tasso), one of the city's leading intellectual circles in the early seventeenth century.²⁵ This book is a striking example of collaboration between two medical professions usually regarded as poles apart if not in direct conflict, despite Richard Palmer's warning of some years ago: 'the contrast between physicians and surgeons has been overstated on the basis of conflicts in London and Paris'.²⁶ The relationship between Severino and Malfi can be further illustrated by a passage in the book where Malfi talks about attending numerous anatomies performed by Severino at the Incurabili. Despite Severino's caution and his insistence on enforcing the rule of medical supervision over the

21 A. Musi, 'Medici e istituzioni a Napoli nell'età moderna', in P. Frascari (ed.) *Sanità e storia. Abruzzi, Campania, Puglia, Basilicata, Calabria, sec. XVII–XX* (Udine, 1989), pp. 19–71, here p. 43.

22 Biblioteca Lancisiana, ms. 50, c. 90r.

23 Biblioteca Lancisiana, ms. 24, M. Aurelio Severino, *Nova scientia et nunquam alias audita cyclopaedia. ... primum libris duobus enarrata quorum nomine traditur Emphytologice seu logica naturalis et originalis; in posteriore vero describitur physiologia, seu de natura propius assequenda; qua veteres artes in sua principia resolvuntur novae inveniuntur ... meditationes et exercitationes ex naturae libro vestigatae*, fol. 56v.

24 See also *Il Protomedico napolitano, o vero dell'autorità di esso. Dialogo raccolto da un discepolo del Dottor Antonio Santorello Protomedico del Regno di Napoli. E dato in luce dal Signor Fabio Cava* (Naples, 1653).

25 See also G. de Miranda, 'Riti di passaggio. Gli ultimi anni di Giambattista Basile e la memoria dell'apprendistato poetico', *Napoli nobilissima* (2001): 71–80.

26 R. Palmer, 'Physicians and Surgeons in XVI century Venice', *Medical History* 23 (1979): 451–60.

activities of surgeons and barber-surgeons, his ideas would inevitably encounter criticism in the learned medical community. This probably explains why Severino chose not to publish the book in his own name.

Apart from the question of authorship, the book itself is quite striking in its illustration of the origins and developments of medicine and of the important role played in it by the art of the barber-surgeon.²⁷ The greater antiquity of surgery with respect to *diaetetica* and *pharmaceutica* is a commonplace in the history of medicine deriving from Celsus and Guy de Chauliac.²⁸ The author of the *Barbiere* agrees (quoting Guy de Chauliac) but also seeks to understand why the art of medicine subsequently split up into different and conflicting professions. In his opinion, 'today's medicine has as many parts as the different parts of the human body'.²⁹ In actual fact, the author of the *Barbiere* considers medicine too vast a field for any individual to master in its entirety, thus advocating specialisation and cooperation between the different categories of medical practitioner.

Severino's account of the split between medicine and surgery takes into account 'la necessità, madre, et inventrice delle arti ... humane' (necessity, the mother and inventor of human arts).³⁰ Surgeons deal with sudden accidents and physicians with protracted illnesses and longer forms of treatment. Physicians no longer have shops where they can be easily found, as in the time of Hippocrates. Antiquity is thus on surgery's side, even from a professional point of view. What Hippocrates described as a doctor's 'officina' is more like the shop of a contemporary surgeon or even barber-surgeon. The definitive separation of surgery and medicine took place only in recent times. Quoting Andreas Vesalius, the author specifies the exact period of the birth of a new pattern of work distribution, when barbers started dealing with cosmetics and 'minor' surgery.³¹ The antiquity of 'decoratoria' (cosmetics) is further shown by the fact that it accompanied and in some respects even prompted the very birth of civilisation, cutting the beards and long hair that were the norm in the prehistoric *sylvae* but were thought unseemly in the newly founded cities of ancient nations.³²

The nobility of the barber's art is shown by its concern with the visual appearance of the face and head, the noblest parts of the human body (an opinion supported by a quotation from Plato's *Timaeus*), and still more so by its use of the hands as instruments. Together with philosophers like Giordano Bruno and Campanella and a well-known lineage of learned surgeons, Severino regarded the hands as the most powerful and active part of the human body, the organs most endowed with sensitivity. Touch being the most widespread sense and a bridge between the animate and inanimate, operations performed with the hands were in fact considered

27 *Il Barbiere*, pp. 3–7.

28 The same view is expressed in medical histories from the Renaissance to Daniel Leclerc's *Histoire de la medecine* (1696).

29 'mali dei denti delle orecchie del sesso della gola cataratte crepature pietre della vescica', *Il Barbiere*, p. 1.

30 *Il Barbiere*, p. 4.

31 *Il Barbiere*, p. 3.

32 'Non ha dubbio, che la coltura, e condimento de' capelli, e delle Barbe, habbia avuto principio infin da quel tempo, che gli uomini, lasciando le Selve, si congregarono nelle Città', *Il Barbiere*, p. 5.

a very special kind of ‘natural’ magic.³³ The third chapter of the book offers a rather conventional account of the history of the art through the lives of ‘great’ barber-surgeons.³⁴

A Revolution and its History

Another and altogether different aspect of the writing of history and related problems is to be found in the work of Tommaso Donzelli. Donzelli was a learned apothecary and a close friend – in some respects also a pupil – of Severino, with whom he shared discussions, therapeutic experiments and books.³⁵ Donzelli was famous all over Italy for his shop, which was also a museum. This was something fairly frequent with apothecaries, a similar example being provided by the Neapolitan Ferrante Imperato at the beginning of the seventeenth century.³⁶ *Specimina* from Donzelli’s shop, as well as his personal expertise, were often called for in the Kingdom and abroad. A dispute on *opobalsamum*, an ingredient of theriac, started in Rome in the 1640s and soon spread to Venice, Naples and other Italian cities. Donzelli wrote a substantial treatise on the subject involving a discussion of chemical pharmacology.³⁷

Donzelli shared a strong interest in chemistry with his friends and with Severino himself – Van Helmont was much read in Naples in those years. As we gather from later documents, the adoption of Van Helmont’s theories appears to have replaced an earlier interest in Paracelsian doctrines. Interest has only recently developed in Paracelsianism and early iatrochemistry in Italy.³⁸ New research may well show that the nineteenth-century view of Italian medicine as totally devoted to iatromechanics has no basis other than the obvious desire of Italian commentators to emphasise Galileo’s influence on the life sciences. Iatrochemistry was in fact practised and discussed, and – most importantly for our purposes – it was in order to honour chemistry that many medical histories were written, probably because of the need to construct a tradition for a practice seen as suspiciously ‘young’.

Donzelli’s involvement in historical writing also took an unexpected practical turn. He was directly involved in the anti-Spanish uprising of 1647, to such an

33 See also Th. Campanella, *De sensu rerum et magia* (Frankfurt, 1620).

34 On the political and symbolic meaning of series of portraits, see F. Haskell, *History and its Images: Art and the Interpretation of the Past* (New Haven, CT, 1995), chapter 2, *Portraits of the Past*.

35 Mention of Donzelli and of discussions on medical and chemical topics is to be found in Severino’s letters, especially those written to Cassiano Del Pozzo in Rome: see O. Trabucco, ‘Scienza e comunicazione epistolare: il carteggio fra Marco Aurelio Severino e Cassiano Dal Pozzo’, *Giornale critico della filosofia italiana* 76 (1997): 204–49.

36 See also G. Olmi, *L’inventario del mondo. Catalogazione della natura e luoghi del sapere nella prima età moderna* (Bologna, 1992). On Imperato see E. Stendardo, *Ferrante Imperato, Collezionismo e studio della natura a Napoli tra cinque e seicento* (Naples, 2001).

37 G. Donzelli, *Synopsis de opobalsamo orientalis, auctore Iosepho Donzello Pharmacopola Neapolitano* (Naples, 1640).

38 See A. Clericuzio, ‘Medical Chemistry and Paracelsianism in Italy (1550–1650)’, in M. Pelling and S. Mandelbrot (eds), *The Practice of Reform in Health, Medicine and Science, 1520–2000* (Aldershot, 2005), pp. 59–79.

extent that he was appointed the official historian of the Republic (which rather paradoxically called itself the ‘fedelissima repubblica’ or ‘most loyal republic’ – to the legitimate Spanish king). He wrote the history, or at least the first part of it, which bears the revealing title *Partenope liberata overo Racconto dell’heroica risoluzione fatta dal popolo di Napoli per sottarsi con tutto il Regno dall’insopportabil giogo delli Spagnuoli* [Partenope Delivered, or the Heroic Resolution of the Neapolitan People to Free Itself and the Whole Kingdom from the Intolerable Burden of Spanish Rule]. The *Partenope* was published before the short-lived republic succumbed to the Spanish army.³⁹

In the remarkable epistle to the reader that opens the book, Donzelli addresses two of the most widely discussed problems of the *ars historica*, namely the reliability of testimony and the ‘passion’ of the historian. As regards the first, he assures the reader that, due to his habit of scientific observation, he has only written about things he saw with his own eyes – unbelievable though they may seem – or was told about by reliable people.⁴⁰ He is at pains to refer to this principle throughout the book. This may seem to be at odds with his strong belief in supernatural intervention in many episodes of the struggle of the *parte popolare*, his own party, against its many enemies. As for the second, he plainly admits to having written ‘con le armi in mano’ [weapons in hand] and that, despite his efforts to confine himself to the strict truth, his mind was ‘disturbed’ by political passion. In actual fact, he almost refuses his work the title of *Historia* and regards it as a sort of expanded diary. (It may be worth noting that this is still a standard text for scholars examining the uprising led by Masaniello.)

Donzelli was accustomed to discussing testimony and assessing the truth of what was read in ancient works or heard from modern travellers. He was the author of the *Teatro farmaceutico*, first published in Naples in 1667, a highly successful work that was reprinted over and over, also in Latin translations (the last edition I am aware of is dated Venice, 1763).⁴¹ The *Teatro* is a collection of pharmacological prescriptions – many of them in two versions, one traditional and one chemical – but also much more in that it contains a detailed description of the most frequently used pharmaceutical substances.⁴² In discussing the characteristics of the individual animal, vegetable and mineral elements used in apothecaries’ preparations, Donzelli carefully discusses the relevant ancient and ‘modern’ facts, rejecting – while delighting in – what he calls ‘favole’ (fairytales) and only retaining information that he is personally able to verify. While what might be called ‘apothecaries’ philology’ lies outside the scope of this paper, attention could be drawn at least to Prospero Alpini or Pietro Castelli as

39 *Partenope liberata overo Racconto dell’heroica risoluzione fatta dal popolo di Napoli per sottarsi con tutto il Regno dall’insopportabil giogo delli Spagnuoli, parte Prima del Dottor Gioseppo Donzelli Napolitano* (Naples, 1647).

40 *Partenope liberata*, see *Al lettore*.

41 Giuseppe Donzelli, *Teatro farmaceutico dogmatico, e spagirico* (Naples, 1677); quotations are from the Venice, 1696 edition.

42 The first part of the *Teatro* is exclusively devoted to a treatment of chemistry and its history; the dedication, signed 1666, considers the book a ‘chemical discourse’: see also *Dedica a Gio: Battista Capuccio Filosofo, e Medico Egregio e dell’altre Scienze Professore Eccellentissimo*, pp. [11–18], here [11].

exemplifying this learned practice, which was obviously not confined to Donzelli's experience and text and ought to be taken into serious consideration.⁴³

I shall confine my analysis to a brief comment on a short opening section of the *Teatro*, dealing with 'physician saints' arranged in a calendar. Simon Ditchfield has shown the significance of the lives of saints for the construction of a new pattern of *historia sacra* – and, it must be added, for history in general – in an era when history was largely conceived as a collection of heroic lives (not necessarily Plutarchian, even though Plutarch is one of the primary models for this kind of historiography).⁴⁴ Medical history retained this pattern for a very long time – some traces of it can indeed even be detected in the histories by Daniel Leclerc and John Freind, two books commonly regarded as the earliest examples of this genre.⁴⁵

Donzelli was a revolutionary but also religious, which Severino was not, at least judging from his work. Donzelli's involvement with religion is apparent from the *Partenope*, where surprisingly enough, at least for the modern reader, many of the events are attributed to direct – that is, miraculous – divine intervention. His treatment of the lives of saints is based on the same belief: the secular proficiency in the human arts of healing displayed by many saints was interwoven with their ability to effect miraculous cures. Women are apparently as good at healing as men, and not only in the miracle-working sense (witness the prominent position given to Francesca Romana and Hildegard von Bingen).⁴⁶ Like Severino himself, Donzelli considered healing a profession open to anyone, and this view had a historical basis. As Severino says in his (unpublished) *Chirurgia inermis* ['unarmed' surgery: performed without instruments], the art of surgery is originally 'ingenita' [inborn] in all men and women.⁴⁷

Di Capua: Scepticism and Medical History

Leonardo Di Capua, a former pupil of Severino and an active practitioner in the city – he also had a university appointment – published his *Parere ... sull'incertezza*

43 See R. Palmer, 'Pharmacy in the Republic of Venice in the sixteenth century', in A. Wear, R. K. French and I.M. Lonie (eds.) *The Medical Renaissance of the Sixteenth Century* (Cambridge, 1985), pp. 100–17.

44 S. Ditchfield, *Liturgy and Sanctity and History in Tridentine Italy: Pietro Maria Campi and the Preservation of the Particular* (Cambridge, 1995).

45 Daniel Leclerc, *Histoire de la medecine, où l'on voit l'origine et le progrès de cet art, de siècle en siècle; les sectes, qui s'y sont formées; les noms des medecins, leurs découvertes, leurs opinions, & les circonstances les plus remarquables de leur vie* (Amsterdam, 1696); John Freind, *The History of Physick; From the Time of Galen, To the Beginning of the Sixteenth Century. Chiefly with Regard to Practice. Part I. Containing all the Greek Writers* (London, 1725).

46 *Catalogo overo Calendario de' Santi Medici, De' quali la Santa Chiesa Cattolica Romana celebra la Festività, Teatro*, pp. [5–10]. Francesca Romana is considered as having had an education in learned medicine ('addottrinata nel medicare rationally').

47 Biblioteca Lancisiana, ms. 50: preparatory drafts and proofs of the title-page of *Chirurgia inermis*.

della medicina [Essay on the Uncertainty of Medicine] in 1681.⁴⁸ The book was designed as an expanded version of an expert opinion on a discussion that had been going on for some time in Naples about the effectiveness – and dangers – of chemical remedies (a nobleman had died as a result of energetic treatment with antimony).⁴⁹ Far from being purely technical, this debate obviously had broader implications. With some exceptions, the progressive section of the medical community had for a long time advocated the use of chemical remedies alongside traditional ones, as well as actively conducting experiments in the field, as shown by the above-mentioned works of Severino and Donzelli. Chemistry had long been associated with atomism – two of the heroes cherished by Neapolitan scientists were in fact Pierre Gassendi and Robert Boyle. The ‘Galenists’, who were often not Galenists at all in the strict sense, strongly opposed chemistry and its unorthodox metaphysical and religious implications. Atomism was condemned by the Church and the attacks upon it reached their peak in the 1690s.⁵⁰

Di Capua’s book is much more than a simple defence of chemical medicine or one of the many works on the implications of corpuscularism for life sciences published in Italy during that period. While accepting some of the contributions offered to medical knowledge by chemistry and suggesting the possibility of an atomistic structure of matter, he is obliged to admit that there is no way to assess the effectiveness of medical remedies precisely. This is because it is impossible to say anything sound about the action of substances and the reaction of animal organisms to them, at least for the time being. Di Capua puts forward the view that medicine is a growing and expanding body of knowledge and that it may miss today some essential point that will be grasped tomorrow.

Di Capua’s thesis on the uncertainty of medicine is entirely based on historical testimony. History alone suffices to demonstrate that medicine has no certainty and no established rules, that it is a science capable only of attaining a degree of probable knowledge. Truth is the sole preserve of geometry. In his rich, erudite and puzzling text, Di Capua uses all the weapons of the humanistic attack on physicians and all the texts of this tradition, as well as the texts of Scepticism, from Sextus Empiricus to Agrippa of Nettesheim.⁵¹ This would hardly win the approval of his fellow practitioners. In fact, no subsequent historian of medicine – from Leclerc to

48 *Del parere del Signor Lionardo Di Capua Divisato in otto Ragionamenti, Ne’ quali partitamente narrandosi l’origine, e ’l progresso della medicina, chiaramente l’incertezza della medesima si fa manifesta* (Naples, 1681).

49 See also M. Torrini, ‘Uno scritto sconosciuto di Leonardo di Capua in difesa dell’arte chimica’, *Bollettino del Centro di Studi Vichiani* 4 (1974): 126–39.

50 On the virulent attack carried on in Naples by ecclesiastical authorities and traditional medical establishment against ‘the moderns’, L. Osbat, *L’Inquisizione a Napoli. Il processo agli ateisti 1688–1697* (Rome, 1974).

51 R. H. Popkin, *The History of Scepticism from Erasmus to Spinoza*, revised ed. (Berkeley, CA, 1979); N. Siraisi, ‘Renaissance Critiques of Medicine, Physiology and Anatomy’, in her *Medicine and the Italian Universities 1250–1600* (Leiden, 2001), pp. 185–202.

Freind and Bernier – fails to recall the *Parere* and to dismiss as wild fancy its denial that medicine is a science in its own right.⁵²

The book has a fascinating and sometimes irksome structure. It is not a history in the chronological sense but rather a collection of *Ragionamenti* or disquisitions all dealing with more or less the same subject as seen from different points of view. It expands at length upon the early or primitive history of medicine. It repeats the stories about Podalirius and Machaon that can be read in every history of medicine of the time. But it also tries to reconstruct the context of primitive methods of healing by a combination of Bacon's theories (chance and need as the origins of human knowledge) and a critique of classical texts and sources. The Holy Office condemned the book and a thoroughly revised edition was published in 1695 under the patronage of Queen Christina of Sweden, who was not so powerful or generous a patron as Di Capua might have hoped.⁵³ Two further editions appeared, as well as two English translations of the first *Ragionamento*, published in London in 1684 and 1685 with a dedication to Robert Boyle.⁵⁴

It may be worth noting that Di Capua's works include a long and detailed biography of the Neapolitan nobleman and soldier Andrea Cantelmo. While Di Capua tells us nothing about his idea of history in the *Parere*, his familiarity with the problems of historiography is apparent from the vast array of erudite works quoted there. His sources (historical rather than scientific) are somewhat old-fashioned for the period. Struever has drawn attention to the legal tradition of writing and reasoning on the basis of historical knowledge as one of the genres from which the work drew inspiration.⁵⁵ (*Parere* is in fact a legal term and Di Capua had studied law before turning to medicine.) This legal slant does not, however, explain everything in the book. In actual fact, Di Capua regards medicine and history as being in much the same situation: both lack certainty in the geometric sense and both can hope to attain some degree of certainty through close observation, careful assessment of the reliability of evidence and testimony, and comparison with past experiences.

52 'This treatise I think is one of the most unaccountable I ever read: the author has shewn us, that he had a good deal of scatter'd learning, and that at the same time he did not want talents to abuse it, by giving an ill turn to every thing he read ... Nay, he is so ridiculous, as to quote Sextus Empiricus, the famous Sceptick, for one of the authors, who was apprised of the Uncertainty of Physick: whose very principle it was, to allow no manner of Certainty in any thing, not even a Mathematical Demonstration': Freind, *The History of Physick*, pp. 226–7.

53 M. Conforti and A. Clericuzio, 'Dedicatory Epistles to Christina in Seventeenth Century Italian Scientific Literature', in M. Beretta (ed.), *Sidereus Nuncius & Stella Polaris* (New York, 1977).

54 John Lancaster Gent, *The Uncertainty of the Art of Physick, together with an Account of the Innumerable Abuses practised by the Professors of that Art Clearly manifested by a Particular Relation of the Original and Progress thereof* (London, 1684), and *The Conclave of Physicians, the Second Part; Further Detecting their Intrigues, Frauds and Plots against their Patients* (London, 1684).

55 N.S. Struever, 'Lionardo Di Capoa's *Parere* (1681): A Legal Opinion on the Use of Aristotle in Medicine', in S. Kusukawa and C. Blackwell (eds), *Philosophy in the Sixteenth and Seventeenth Centuries: Conversations with Aristotle* (Aldershot, 1993), pp. 322–36.

This meant not only that medicine was no longer to be considered a *scientia* in the scholastic sense but also that the goal and meaning of history was no longer to provide the foundation for moral teaching (the *historia magistra vitae* of the *ars historica* tradition). The task of history (or chronicle, in terms of Donzelli's book) was to offer diagnoses, and dramatically uncertain ones at that.

History and the Sciences at the Turn of the Century

One of the obstacles to the development of experimental practice in Naples was that no prince was able – or willing – to promote an academy comparable to the Accademia del Cimento in Florence or those active in Bologna, Rome and other Italian cities. This was partly the result of the provisional character of many a Spanish viceregal government. The short-lived Accademia degli Investiganti (1663–70) was built up around a nobleman, the Marchese D'Arena, and collapsed when he died.⁵⁶ We have no detailed reports on its activity and little information about its discussions, apparently dealing with physiology, geology and other scientific subjects.

The first academy officially promoted by a viceroy, the Accademia Palatina or Medinaceli, was established almost at the end of our period in the years 1698–1701 and apparently not scientific in character. Interestingly enough for our purposes, the lectures held there, which have been recently published, were almost entirely devoted to history: ancient and Roman history, antiquarianism and some natural history⁵⁷. Many of its members – the cream of Neapolitan intellectuals – were physicians or had been the pupils (in some cases the sons or near relatives) of physicians and medical practitioners. This academy was the product of a conscious effort, on the part of the *ceto civile*, to establish an alliance with the Spanish government (which was shortly to be replaced by the Austrians in 1707). Historical discussion was to be the common ground for this encounter – the intellectuals were supposed to remind the Viceroy Duke of Medinaceli, a shrewd Spanish grandee and a lover of *canterine*, of the blessings and pitfalls of absolute power.

In fact, some of the most troublesome scientific problems of the time were lurking beneath the polished surface of late Renaissance and Machiavellian rhetoric about the virtues and vices of Roman emperors. Many of these questions had both a scientific and an historical or antiquarian face. The academicians chose to deal first of all with remote antiquity, the preserve of Biblical experts. This meant discussing the pre-Adamites, and the age and size of the primeval giants mentioned in the Bible.⁵⁸ It also involved discussions about the original chaos and the divine creation of matter as well as the origins of the arts, sciences and religions – obviously, *heathen* religions and mythologies. Neapolitan intellectuals read and were familiar with up-to-date works of religious and historical erudition published in the Netherlands and England, as well as France, where Jansenist historiography was flourishing. They

⁵⁶ See note 2 above.

⁵⁷ The lessons are being published: *Lezioni dell'Accademia di Palazzo del duca di Medinaceli (Napoli 1698–1701)*, ed. by Michele Rak (Naples, 2000–), vols 1–4.

⁵⁸ See also, for example, Giuseppe Lucina, *Sullo scemamento del mondo* (in *Lezioni dell'Accademia*, vol. 4.).

were well served by a rich library assembled by one of their number, the learned lawyer Giuseppe Valletta, who strove very hard all his life to learn English (apparently with little success) in the belief that it would become the vernacular language of the future. Undeterred by censorship, Valletta knew only too well how to exploit the local skill in smuggling books and other goods.⁵⁹ He used his library to write a *Historia philosophica* (1697–1704), which remained unpublished, arguing that the knowledge of the moderns was in fact far more ancient than Aristotelianism, a more recent and heretical philosophy impossible to reconcile with Christian ideas.⁶⁰ Di Capua's sceptical teaching was not forgotten but brought up to date with the finest fruits of European antiquarianism, and adapted to the political situation of the Kingdom. The young members of the Accademia Palatina included Giambattista Vico and Pietro Giannone, both of whom found ideas and elements in its discussions to be incorporated in their future work.

The 'historical turn' in Neapolitan thought has generally been regarded as devoid of scientific concerns and content.⁶¹ On the contrary, both Vico and Giannone cultivated a keen interest in the sciences and especially in medicine, which both considered the most 'human' of the sciences. As regards Giannone, he states in his autobiography (*Vita*) that he let slip no opportunity to attend dissections performed by the famous anatomist Luc'Antonio Porzio, who also wrote two works connected with the history of medicine, a commentary on the Hippocratic text *De veteri medicina*, and an attack on bleeding with a title referring to Erasistratus.⁶² Giannone was a life-long friend of the physician Nicola Cirillo, a reformer of medical education in favour of the teaching of surgery, chemistry and botany at university. Needless to say, Cirillo too was interested in the history of the medical tradition, and addressed the history of chemical medicine in his lengthy commentaries on Michael Etmüller's *Opera*.⁶³

As for Vico, his involvement in medicine and medical history can be traced back to a youthful work devoted precisely to the history of medicine. Unluckily (or luckily), this is a lost work, even though Pietro Colletta did manage to read it in a printed version in the late eighteenth century. All we can gather from the very short summary of this *Liber physicus* offered in Vico's autobiography is that he attributed great importance to Egyptian medicine.⁶⁴ This lost work, originally intended as the second part of the *Antiquissima Italorum sapientia* [On the Very Ancient Learning of Italians], is a puzzle we may hope to solve one day, but it is not the only lost

59 V.I. Comparato, *Giuseppe Valletta: Un intellettuale napoletano della fine del Seicento* (Naples, 1970).

60 G. Valletta, *Opere filosofiche*, ed. M. Rak (Florence, 1975).

61 For a reappraisal of the 'turn of the century' Cartesian vogue in Naples, see *Dalla scienza mirabile alla Scienza Nuova. Napoli e Cartesio, Catalogo della mostra* (Naples, 1997).

62 On Porzio, A. Dini, *Filosofia della natura, medicina, religione. Lucantonio Porzio (1639–1724)* (Milan, 1985).

63 M. Etmulleri, *Opera omnia in quinque tomos distributa. Editio novissima Veneta, Lugdunensi, Francofurtensi et Neapolitana emendatio; & locupletior omnium* (Venice, 1734).

64 *Vita di Giambattista Vico scritta da se medesimo* (1725–28), ed. by B. Croce and F. Nicolini (Bari, 1929), pp. 35–6.

history of medicine in Naples. There are at least two more, one written by the lawyer Domenico Aulisio, who was an enemy of Leonardo Di Capua but also well versed in Richard Simon's – and possibly Baruch Spinoza's – works on the Bible.⁶⁵ Aulisio was one of Pietro Giannone's teachers.

Conclusion

Arnaldo Momigliano draws attention in a seminal essay of 1985 on history and medicine to the fact that (ancient) physicians and historians shared the same attitude towards the facts they observed, wholly rejecting the idea that they could be accounted for by the intervention of a god or gods. As he says, 'this meant that they excluded, or reduced to a minimum, single supernatural interventions'.⁶⁶ The histories of medicine written in Naples in the period examined here – local and limited though the point of observation may be – show that this attitude still posed problems and called for answers in Vico's time. If we broaden the perspective to include European histories of medicine in the early modern age, the problem of their relationship to religious narratives is still to be addressed.

There is no mention of the Christian religion in many histories of medicine written between the sixteenth and early eighteenth centuries, by both Roman Catholic and Protestant scholars (the 'history' genre being taken somewhat loosely here to include chronologies, lists of 'famous' medical men, 'Plutarchian' biographies, *bibliothecae* and so on).⁶⁷ A few authors cursorily assert that diseases are visited on mankind by divine will and many of them suggest that human bodies are fragile, but practically no one gives the 'correct' theological explanation (the sin and fall of Adam and Eve). This is particularly striking by contrast with J. Bernier's history of medicine, published in 1689 in France and written from an overtly religious viewpoint, which contains a lengthy chapter and many scattered references devoted to precisely this point.⁶⁸ To the best of my knowledge, even in Germany, the nation that produced by far the most historians of medicine in the early modern age, the pious scholars of the Reformation avoid any assertion that diseases and the skills to treat them were given to mankind by God himself (Bernier quotes *Ecclesiasticus*, 28, on the

65 In a list of the unpublished author's works in D. Aulisio, *Delle scuole sacre libri due* (Naples, 1723).

66 'escludere, o almeno ridurre al minimo, singoli interventi soprannaturali', A. Momigliano, *La storia* quoted in note 16 above, p. 12.

67 There is no complete work on early modern medical historiography. See C. Webster, 'The Historiography of Medicine', in P. Corsi and P. Weindling (eds), *Information Sources in the History of Science and Medicine* (London, 1983), pp. 29–43. For ancient histories, see P.J. Van der Eijk (ed.), *Ancient Histories of Medicine: Essays on Medical Doxography and Historiography in Classical Antiquity* (Leiden, 1999). See also C. Crisciani, 'History, Novelty and Progress in Scholastic Medicine', *Osiris* 6 (1990): 118–39.

68 J. Bernier, *Histoire chronologique de la medecine et des medecins, ou il est traité de l'origine, du progrès, & de tout ce qui appartient à cette science. Du devoir des medecins à l'égard des malades. Et de celui des malades à l'égard des medecins. De l'utilité des remedes, & des abus qu'on en peut faire* (Paris, 1689).

point). Practically all of the histories of medicine we have considered insist on the heathen custom of creating gods through the deification of men of excellence and skill, including early medical practitioners.

Another rather striking fact is that the few histories dealing with the period following classical antiquity appear to ignore the advent of Christianity and the question of whether it may have affected medical theory or practice. This is not to say that physicians and other health practitioners were more prone to atheistic opinions than other scholars or learned persons. (A rumour to this effect was in fact circulating, usually fuelled, at least in Catholic countries, by the physicians' enemies in the law faculties.) It may be that this stemmed from the scholarly habit of gathering information from classical sources, especially the triad of *De veteri medicina*, Celsus and Galen's *De sectis*. It may be that we should bear in mind the fact that the secular perception of medical practitioners – including learned physicians – was that of professionals approaching the world of crafts, in spite of their claims to the nobility of the 'higher' *scientiae*. It may be that tracing of the origins of so uncertain a discipline – socially and intellectually uncertain as well as often dramatically ineffective – served the purpose of showing that medical and scientific knowledge did not start out as some kind of secret and highly developed wisdom revealed to and transmitted by Egyptian priests or other *sapientes* of myth or fable.

The early history of the medical art was more likely to have been characterised by a long process of trial and error, of hands-on experience combined with an absence of linguistic or rhetorical skills.⁶⁹ This at least is what many of the early modern historians of medicine say. This is also Vico's view of the *prisca sapientia* in general, including religious knowledge. The history of the arts and sciences, and especially of their origins, was influenced by, modelled on or conflicting with, religious accounts of the remote origins of mankind, not only the orthodox Biblical narrative but also – if not mostly – the emerging narrative, often fraudulent or fanciful, concerning heathen peoples.

Attempting to reconstruct the early origins of medicine did not substantiate fancies concerning a pristine or remote knowledge bestowed by revelation on a few 'enlightened' figures. Equally, medicine did not and could not have divine origins, except in heathen thinking. The standard explanation for the origins of medicine, like other arts and skills, is the one adopted by Bacon: they were discovered or invented out of necessity and solely or primarily by chance.⁷⁰ Then came experience and later on some reasoning. Histories of medicine have long known that, as Vico himself says, bodies and their needs come long before the advent of reasoning.⁷¹

69 One the most striking discussions of the primitive attempts at healing is in A. Forte, *Il Trattato della medicinal inventione* [In Vinegia per Venturino Roffinello. M.D. XXXXIII Adi 27 di Octubrio].

70 This is also the view expressed by Di Capua, *Parere* (quoted in note 47 above), rag. III, p. 172.

71 G.B. Vico, *Principi di scienza nuova* (1744), l. I, *degnità* 66.

Tirami sù: Pope Benedict XIV and the Beatification of the Flying Saint Giuseppe da Copertino¹

Catrien Santing

In 1741 the champion of Enlightenment philosophy par excellence, François-Marie Arouet, who is better known as Voltaire, wrote a play entitled *Mahomet; tragédie*. A few years later he decided to dedicate this piece to the then reigning pope Prospero Lambertini (1675–1758), alias Benedict XIV (1740–58), using the lofty phrase: ‘Au chef de la véritable religion un écrit contre le fondateur d’une religion fausse et barbare’.

In light of current affairs Voltaire almost comes across as a visionary when he decided to (re)baptise his piece *Le Fanatisme ou Mahomet le prophète*. The play denounced what its author viewed as the hypocrisies of organised religion and its associated ills: superstition, dogma and fanaticism. Thereby he challenged the theological and metaphysical basis of all organised religions, including Catholicism, and counterpoised it by a self-styled natural religion inspired by Hume’s and Leibniz’s sceptical rationalism. The pope, after ample consultation with his councillors from the papal curia, praised the author of *Mahomet* for his literary talents in a very carefully phrased yet favourable reaction. Despite the pope’s (merely) intellectual respect for the philosopher, however, the latter’s works were judged too dangerous for the Italian people. The Italian translation of *Mahomet* was banned when in 1757 Voltaire’s complete *oeuvre* was put on the Index. Ironically, only 12 years earlier the author had been elected fellow of the Accademia delle Scienze dell’Istituto Bolognese, an institution aimed at promoting medicine and the natural sciences that was also proud to have the pope as main patron, hailing him as its *amplificator maximus*.²

1 All translations in this chapter are by the author unless otherwise stated.

2 On this: Pierre Martino, ‘L’interdiction du “Mahomet” de Voltaire et la dédicace au pape (1742–1745)’, in *Mémorial Henri Basset*, 2 vols (Paris, 1928), vol. 2, pp. 89–103, and Voltaire, *Correspondence*, ed. Theodore Besterman, 107 vols (Geneva, 1953–1965), vol. 14, pp. 157, 200, 203, 222. See also the information in Ludwig von Pastor, *Geschichte der Päpste seit dem Ausgang des Mittelalters*, 16 vols (Freiburg im Breisgau, 1931), vol. 16.1, ‘Geschichte der Päpste im Zeitalter des fürstlichen Absolutismus von der Wahl Benedikts XIV. bis zum Tode Pius VI (1740–1799)’; Mario Rosa, ‘Benedetto XIV’, in *Dizionario biografico degli Italiani* (Rome, 1960–), vol. 8, pp. 393–408, esp. p. 402 and p. 408; Mario Rosa, *Riformatori e ribelli nel ’700 religioso italiano* (Bari, 1969), pp. 49–118, esp. 71–3; and Renée Haynes, *Philosopher King: The Humanist Pope Benedict XIV* (London, 1970), pp. 178–82.



Fig. 5.1. Prospero Lambertini.



Fig. 5.2. San Giuseppe Copertino in ecstasy seeing the Sanctuary of Loreto, 1754, by Ludovico Mazzanti, in the Basilica Santuario di San Giuseppe, Osimo. Courtesy of Comune di Bologna.

Lambertini's close friend L.A. Caraccioli, in his papal biography, ridiculed Voltaire for his having sent the pope so many grovelling letters. This gibe conceals the fact that Lambertini and Voltaire shared not only literary tastes, but also similar philosophical and societal views.³ Caraccioli's criticism of Voltaire, then, may give a false impression of intellectual opinions and positions in the first half of the eighteenth century, which were far more complicated than a mere either/or division between religion on the one hand and Enlightenment philosophy and literature on the other. This chapter unravels the pope's seemingly contradictory views by confronting his Enlightenment reputation with the fact that, in 1753, he beatified the present patron saint of aviation and aerospace personnel, Giuseppe da Copertino, who by virtue of his innumerable flights around the spires of churches had managed to rise to the rank of sainthood.

To demonstrate the paradoxical position of an outstanding eighteenth-century intellectual who tried to fulfil the papal office to the best of his ability, I review the long and difficult beatification process of the man who, arguably, is one of the weirdest holy men of early modern Italy. Indicating the intricacies of that era's reasoning, my argument concentrates on the medical aspects and criteria for distinguishing the natural course of events from divine intervention. The beatification of Giuseppe, whose canonisation followed quickly in 1767, happened under the utter approval and satisfaction of Pope Benedict who, as head of the Congregation of Rites, had led the juridical procedures. As I shall show, this beatification all but contradicts the pope's reputation of being one of the prominent scholars and *lumi* of eighteenth-century Italy.

Italian Light

In the volume on early modern Italy of the *Short Oxford History of Italy* it is stated that 'From the 1720s to 1750s a flock of erudite historians and political philosophers, most notably Ludovico Antonio Muratori of Modena and Scipione Maffei of Verona, analysed the causes of Italy's "decadence" and fought a battle against "superstition" that even influenced an unusually open-minded pope such as Benedict XIV.'⁴ If this pope's role is not a focus in this survey, labelling him an 'Enlightenment pope' would characterise him wrongly, as well as be a *contradictio in terminis*. Franco Venturi's famous series *Settecento riformatore* showed that only in the second half of the century did effective reform policies begin to take shape on the Italian peninsula. Actually, only the first of Venturi's five-volume study discusses events and developments in the first half of the century, and even there the argument only starts off around 1730.⁵ Since Venturi the interpretation and validation of the Enlightenment has of course changed profoundly, including in respect to Italy. For example, Mario Rosa, who identified other reform tendencies in church and society

3 Louis-Antoine Caraccioli, *La Vie du Pape Benoît XIV Prosper Lambertini, avec des notes instructives, et son portrait* (Liège, 1766, and Paris, 1783).

4 Anne Jacobson Schutte, 'Religion and the Post-Tridentine Church', in John Marino (ed.), *Early Modern Italy, 1550–1796* (Oxford, 2002), pp. 125–65, esp. p. 140.

5 Franco Venturi, *Settecento riformatore*, 5 vols (Turin, 1969–87), vol. 1. 'Da Muratori a Beccaria'. See on this also Anna Maria Rao, 'Enlightenment and Reform', in Marino, *Early Modern Italy*, pp. 229–52.

that were in line with seventeenth-century reasoning, discussed the life and works of Benedict XIV in a chapter entitled ‘Tra Muratori, il giansenismo e i “lumi”’.⁶

Generally speaking, scholarly attention has shifted chronologically backwards, looking for ‘Reforme senza Illuminismo’.⁷ From these studies Pope Benedict emerges as a pivotal if not Janus-faced figure. He is seen as the last in a row of Post-Tridentine popes who rounded off the Counter-Reformational improvements the Catholic Church had endured since the sixteenth-century. His papacy is also considered to reflect a break with the continuing tradition of princely and nepotistic Renaissance popes. As a humane and tolerant intellectual he advocated new scholarship and science. He counted among his friends not only the new ‘scientifically’ proceeding hagiographers of Saint-Maur and the Bollandists and the historian Ludovico Muratori, but also contemporary physicians such as Marcello Malpighi and Giovanni Maria Lancisi. After the latter’s death in 1720, the future pope acted as his executor, and in that role, together with the physician Antonio Leprotti, he took care of the posthumous publication of his *De motu cordis et aneurysmatibus* (Leprotti he later appointed his private physician).⁸

Inspired by Muratori’s *Della regolata devozione de’ cristiani* (1747), Benedict XIV advocated a balanced evangelical simplicity, avoiding theological hair-splitting as well as devotional excesses. During his pontificate the number of ecclesiastical feasts was seriously reduced under the argument that they left poor people too little time for earning a proper living. The observance of Sundays was judged to be much more important than the celebration of the feast-days of innumerable saints.⁹ Furthermore, flagellation in public became strictly forbidden as it was seen to arouse lust, while the permitted veneration of saintly relics was ordered to be surrounded with the utmost carefulness. As long as their discovery and holiness was documented in detail, the bodies of Christian martyrs found in the catacombs were allowed to be venerated, but strange devotions such as that around ‘the phial of the Virgin’s milk’ were abolished.¹⁰ The pope felt that there were too many contemporary believers – especially female mystics with their fanaticism, fantasy and hysterics – who were threatening to destroy the rationality and reasonableness of Christendom, thus stimulating superstition. Their false attempts at infusing Catholicism with their private revelations constituted a threat to the articles of Christian faith that were codified by the Scripture.

Despite the repeated interference of major secular leaders, the pope refused to recognise the tremendously popular Devotion of the Holy Heart. Not only did he severely doubt the famous visions of the French mystic Marguerite Maria Alacoque, he also wanted to limit liturgical commemoration to celebrations of the crucial events

6 Rosa, *Riformatori e ribelli*, chapter 2, pp. 49–118.

7 Dino Carpanetto and Giuseppe Ricuperati, *L’Italia del settecento, crisi, trasformazioni, lumi* (Bari and Rome, 1986), chapter 13, esp. pp. 241–6 on Benedict.

8 Konstantin Kirchmayr, *Medizinische Grundanschauungen der Richtlinien Benedikts XIV. Zur Begutachtung von Heilungswundern im IV. Buch (1. Teil) des Werkes ‘De Servorum Dei Beatificatione et Beatorum Canonisatione’* (Erlangen, 1969), pp. 7–8. The medical knowledge of Benedict XIV was discussed earlier by Jean-Denys Bernard Gorce, *L’Œuvre médicale de Prospero Lambertini (Pape Benoît XIV) 1675–1758* (Bordeaux, 1915).

9 J. Hermans, *Benedictus XIV en de liturgie. Een bijdrage tot de liturgiegeschiedenis van de Moderne Tijd* (Bruges, 1979), pp. 299–317.

10 Haynes, *Philosopher King*, pp. 58–60.

of Christ's earthly life. The physical side of the Holy Heart devotion in particular was judged to be dangerous, for in his eyes it paved the way for the worship of other parts of the Saviour's body, such as his hands and nose. Yet the pope's main reasons for denying the Holy Heart an official feast-day were of medico-scientific origin. He argued that more than a century ago science had already demonstrated that the heart was a mere muscle and therefore it could not function – as the heart-devotees put forward – as the domicile of the emotions, the virtues and the soul.¹¹

Being a great advocate of anatomical learning, Lambertini encouraged autopsies at the University of Bologna, his native town over which, from 1731 until his election in 1740 he reigned as archbishop. He took measures that ensured the Bolognese anatomists were provided with sufficient corpses for their research. In the edict *De cadaverum sectione facienda in publicis academicis* (1737) he treated the problem of body-snatching, which was virulent in university towns in particular, by acknowledging the importance of practical demonstrations of anatomy. The ruling of Pope Boniface VIII of 1299 on the dividing-up of corpses, Lambertini reasoned, had been interpreted incorrectly. Autopsies on the bodies of men executed for their crimes had always been allowed. Boniface had just wanted to prevent grave robbery and the awesome funeral procedures for crusaders. When a king or other great leader died far away from home, they used to quarter the corpse and boil the pieces until the bones were clean, after which the remains were sent home to be buried.

If dissection for medical purposes had already found approval in 1315, during the height of the 'Anatomical Renaissance' Clement VII (1523/1534) set up new regulations. Approvingly Cardinal Lambertini writes that many bodies of cardinals and future saints, such as St Ignatius of Loyola, had been dissected. Because the brand-new collection of anatomical preparations and waxes Lambertini had donated to the medical faculty of Bologna a few years before was no adequate substitute for real dissection, he ordered that physicians were simply to ask the authorities for bodies of men and women needed for the teaching of anatomy in schools. If relatives had given their consent and arrangements for the funeral of the material remains had been made, anatomical lessons should always be permitted. Doctors needed to explore anatomical knowledge, he said, underscoring his case by mentioning and praising Marcello Malpighi and Thomas Sydenham in particular. Marcello Malpighi (1628–94) dissected thousands of frogs and discovered the finer texture of the lungs and the heart. In his *De polypo cordis* he claimed that the machine offered the best model for investigating both the animal and human body, explaining that our bodies were composed of strings, threads, beams, levers, cloth, flowing fluids, cisterns, ducts, filters, sieves and other similar mechanisms. Study of these parts with the help of anatomy, philosophy and mechanics allowed man to discover their structure and function. Malpighi apprehended the way nature acted, thus laying the foundation of physiology and pathology.¹²

11 Daniele Menozzi, *Sacro Cuore. Un culto tra devozione interiore e restaurazione cristiana della società* (Rome, 2001), pp. 33–4. On Benedict's preference for the brain see: Kirchmayr, *Medizinische Grundanschauungen*, pp. 115–23.

12 On Malpighi and the coming into being of physiology, see for instance: Roy Porter, *Greatest Benefit of Mankind: A Medical History of Humanity from Antiquity to the Present*



Fig. 5.3. Microscope of Lambertini. Wellcome Library, London.

By *Motu proprio*, in 1742, a school of surgery was established in Bologna, which offered special 20-day surgical courses, including exercises on cadavers recovered from the two nearby hospitals. The school even received a set of exquisite surgical

(London, 1997), p. 224.

instruments made for the pope on behalf of the king of France.¹³ Meanwhile, Benedict continued to support the Istituto delle Scienze. At its gatherings problems were discussed that were brought in by Benedict himself. One of the results was a thorough treatise *De longis Jejuniis*. It explained in which cases fasting that lasted months or years was sustained by supernatural interference, and when this happened thanks to natural powers; of course it also included a survey of authors on the subject, so as to underline the argument's scholarly character.¹⁴

Modernity and the Rules of Saint-Making

From the late Middle Ages on, academic medicine acquired an increasingly important role in sanctification trials, with learned doctors as expert witnesses. They analysed and judged the medical aspects of healing miracles performed by the candidate for holiness. This involved listing possible natural and unnatural causes, but frequently they also dissected the saintly cadavers.¹⁵ The overwhelming presence of *doctores medicinae* at the Roman Curia from the sixteenth century onwards demonstrates that however much the leaders of the Catholic Reform underlined the miraculous, their predilection for the marvellous went hand in hand with demands for solid historical and, in this case, medico-empirical evidence.¹⁶ Given that in many cases they just had to admit to medical ignorance or failure, physicians, paradoxically, undermined their own professional authority and thus in a way promoted miraculous healing.

On 22 January 1588, Sixtus V issued the bulla 'Immensa Aeterni Dei' by which he erected the Congregation of Rites and charged it with saint-making as well as regulating the exercise of divine worship. This bulla clearly afforded medical reasoning a crucial role in the decision process. The canonisation of Carlo Borromeo in 1610 showed that new, scientific standards for holiness had been established. No longer were visions and feats such as living on no food other than the Eucharist deemed sufficient for awarding saintliness. The Congregation of Rites primarily looked for evidence of heroic virtues. Only the glory of grace enabled undertakings that surpassed normal human capabilities, which led to laudable demonstrations of willpower, such as the endurance of extreme pain and heroic resistance against religious enemies.

Urban VIII (1625–34), who in fact witnessed a flying demonstration by Giuseppe da Copertino, narrowed down the number of criteria for saintliness to the following

13 On this: G. Martinotti, *Papa Lambertini e lo studio d'anatomia in Bologna* (Bologna, 1911).

14 Kirchmayr, *Medizinische Grundanschauungen*, pp. 11–12 and 159 n. 54.

15 For a general discussion of this custom: Joseph Ziegler, 'Practitioners and Saints: Medical Men in Canonization Processes in the Thirteenth to Fifteenth Centuries', *Social History of Medicine* 12 (1999): 191–225; Katherine Park, 'The Criminal and the Saintly Body: Autopsy and Dissection in Renaissance Italy', *Renaissance Quarterly* 47 (1994): 1–33, esp. 4–6.

16 Simon Ditchfield, *Liturgy, Sanctity and History in Tridentine Italy* (Cambridge, 1995), pp. 117–34, and Nancy Siraisi, 'Autopsy and Sanctity in late Sixteenth-Century Italy', in her *Medicine and the Italian Universities, 1250–1600* (Leiden, 2001), pp. 356–80.

three main ones: doctrinal purity, heroic virtue and miraculous intercession. It was up to the investigators in canonisation processes to verify the heroic exploits of prospective saints rigorously. To prevent political and personal pressure and temporary waves of enthusiasm for certain charismatic figures resulting in either imprudent or premature promotions to sainthood, he ruled that half a century must pass before canonisation. His successor, Pope Innocent X, further refined the procedures and standards. With the help of his personal physician Paolo Zacchias (1584–1659), all illnesses were classified with special attention being paid to maladies deceiving the senses. The result was a large work entitled *Questiones medico-legales* that concentrated on temporary or permanent madness, as well as on the moral and legal responsibility of the deranged. Not surprisingly, Zacchias served as the star witness at many seventeenth-century canonisation processes. In his writings, which contain frequent references to the medical peculiarities of prospective saints, his descriptions of hysterics, epileptics, ulcers, tumours and so on are furnished with saintly details.

These specific historical data suggest or at least make it understandable how also in Pope Benedict's acting and reasoning the interrelation between religion and medicine/science was centre-stage. His views and positions are the more interesting as he was a trained canonist lawyer, who made a career in the saint-making business. From 1708 he served as Promotor Fidei of the Congregation of Rites. This function implied playing the role of 'devil's advocate' in advancing arguments against the virtues of the candidate or proving that miraculous events either never took place or could be attributed to natural causes. The wide historical, medical, physical and of course theological knowledge he gathered in this function, combined with his 20 years of wider relevant experience, resulted in the monumental *De servorum Dei beatificatione et beatorum canonizatione* (Bologna 1734–8). Today this four-volume work is still recognised as the final codification of beatification and canonisation rules and standards, and it also functions as such. It was the work of Paolo Zacchias that served as the main source for Prospero Lambertini.¹⁷ Although he tried to bring the criteria for canonisation into line with the *status quaestionis* of science and scholarship of his day and age, and although he also claimed that a lot of knowledge about the course of nature was still to be revealed or discovered, his work meant the end of a development instead of the beginning of something new. After his election as pope, Benedict XIV issued several decrees to ensure the cooperation of learned physicians in canonisation trials. In 1741 it was ordered that doctors must write extensive but exact commentaries that had to concentrate only on those miraculous facts that were related to their professional knowledge. The fee for their service was set at 30 scudi.¹⁸

Before discussing Lambertini's *chef d'œuvre* more extensively, though, it is important to look more closely at the whole row of beatifications and canonisations approved by him as pope and contrast these with his reputation as an Enlightenment

17 For a survey, see Jacobson Schutte, 'Religion and the post-Tridentine Church'.

18 Benedict XIV, *Nuova tassa e riforma delle spese per le cause delle Beatificazioni e Canonizzazioni e dell'altre spese per la Solennità delle medesime Beatificazioni, e Canonizzazioni* (Rome, 1741). Two years later a decree followed that mentioned which medical professors of the Sapienza were to make a contribution. *Nota de medici e chirurghi* (Rome, 1743).

pope and keen lover of the arts and sciences. When working as Promotore della Fede, he was engaged in the trials of what according to today's standards are weird and very *physical* saints, such as Camillo de Lellis, Catharina de' Rizzi and of course Giuseppe da Copertino.¹⁹ Yet even Lambertini's friend and biographer Luigi Caraccioli saw reason to excuse his hero's many canonisations by saying that the men and women involved merely had been on the waiting list for years.²⁰

The Twilight of Mysticism

The publication of Jonathan Israel's *The Radical Enlightenment* (2001) revived the argument of Paul Hazard's *La Crise de la conscience européenne (1680–1715)* (1935) about the birth of modernity and its contents.²¹ Hazard had argued that in the decades around 1700, in the aftermath of Descartes and Spinoza, the human self had changed drastically. People began to reason, feel and believe differently; they started to question tradition and as a result a more independent attitude came into being. The much favoured *reason* no longer represented balanced wisdom, but implied critical inquiry. At the same time people started to long for deeper and richer feelings. Henceforth the irrational elements in culture found renewed acclaim, finding their expression in a renaissance of esotericism, mysticism, pietism, quietism, freemasonry and other sensory and emotionally lived-through religious convictions. Hazard, so to say, exploited the marginal elements of the *comédie humaine* and concluded that the equilibrium of classicism was forever destroyed. The Roman Catholic Church had tried in vain to restore unity. With this context in mind Margaret Candee Jacob coined the term 'Radical Enlightenment'. In a 1981 study of that title she showed that at the end of the 1600's in England and the Netherlands, intellectuals had formed an agitated and disturbing movement in various radical respects, thus laying the foundation for the *philosophes* of the later eighteenth century.²²

The French historian Marc Fumaroli interprets the (belief in the) extreme behaviour of sixteenth- and seventeenth-century saints in the context of the Renaissance, which, apart from the widely hailed Apollonian aspects, had also embraced Dionysian darkness.²³ The ecstasies, raptures and visions of that era should be regarded the last

19 During his pontificate he beatified 28 persons and canonised four.

20 Caraccioli, *Éloge historique*.

21 For a survey evaluating both monographs in a historiographical tradition, including the Italian tradition and publications, see Carlo Borghero, 'I ritmi del moderno. Discussioni storiografiche su continuità e discontinuità nella storia del pensiero europeo tra Cinquecento e Settecento', *Archivio Storico Italiano* 162 (2004): 313–45, and more generally Giuseppe Ricuperati, 'Un lungo viaggio: il concetto d'Illuminismo negli anni Ottanta', in Alberto Postigliola, *Un decennio di storiografia italiana sul secolo XVIII* (Naples, 1995), pp. 387–421.

22 Margaret Candee Jacob, *The Radical Enlightenment: Pantheists, Freemasons and Republicans* (London 1981).

23 Marc Fumaroli, 'Visoni ed estasi. Figure del rapimento', in Giovanni Morello (ed.), *Visione ed estasi. Capolavori dell'arte europea tra seicento e settecento* (Rome, 2003), pp. 23–33.

manifestation of Platonic amorous philosophy, which around 1500 had experienced a renaissance. For example, the most important philosopher of that time, Marsilio Ficino, had written a *De raptu Pauli*, in which the flight of the apostle to the third heaven (Corinthians 12, 2–5) was compared to a similar experience of Socrates. Around 1700, in France, one could find Bossuet fighting the mystic reveries of Maria d'Agreda and Mme Guyon, and despising the views of his former kindred spirit Fénelon, who had ended up in the arms of the latter and her teaching of pure love. In Rome the authorities had to deal with *La Disputa del Quietismo*. The condemnation for heresy of its founder, Miguel de Molinos, called a (temporary) halt to officially accepted mysticism in the Catholic Church, sometimes denounced as ‘il crepuscolo dei mistici’ – the twilight of the mystics. This bundle of contradictions constituted part of the challenges Lambertini had to deal with as Pope Benedict XIV. Realising that the Catholic Church could not live without mysticism, he sought to restrain its excesses. By establishing meticulously the differences between natural and supernatural he did what Newton, whom he venerated, had done: methodologically distinguishing his natural philosophy, that is, physics, from his religious writings, that is, metaphysics – a distinction that became characteristic for modernity and that was explored further by *philosophes* such as Voltaire and Rousseau.²⁴

Indeed for sixteenth- and seventeenth-century devotion, things were rarely ordinary. Ironically, the era of great scientific discoveries and even ‘scientific revolution’ was simultaneously marked by religious experience growing more excessive, and certainly more physical than before. Specific experiences of Catharina de’ Rizzi (1522–90), for one, in some ways very much resemble those of Copertino. For years, allegedly, she swallowed buckets full of blood from the wound in Christ’s breast. Each time this mystic experience befell her, her heart filled with blood and almost burst open.²⁵ For several years she was weekly rapt in an ecstasy, as God, from Thursdays at noon until 4pm on Fridays, led her through all the episodes of his son’s Passion. This so-called great ‘Ecstasy of the Passion’ only ceased in response to the prayers of Catharina herself and the community. At one point her fame brought so many people of every rank and calling to Prato that the convent’s peace and strict observance were suffering. Catharina de’ Rizzi is said to have had in different ways miraculous intercourse with mystics such as Margaretha de Pazzi and Filippo Neri, never having met them in person.²⁶ After a long and difficult process she was beatified in 1732 and canonised by Benedict XIV in 1746.

This type of religious expression is to be characterised by its underlining of the mutual interdependence of body and soul. Despite contemporary medical developments the heart held its position as the domicile of the human soul and point of contact, not to say ignition key, between heaven and earth. As such the human

24 On this, see Paolo Casini, *Introduzione all’illuminismo. Da Newton a Rousseau* (Rome and Bari, 1973).

25 Bert Treffers, ‘Il cuore malato’, in Sergio Rossi (ed.), *Scienza e miracoli. Alle origini della medicina moderna* (Milan, 1998), pp. 146–56, esp. p. 146.

26 General information in the first hagiography by Serafino Razzi, *Vita di Santa Caterina de’ Ricci* (1591). New edition with documents and introduction by Guglielmo M. di Agresti (Florence, 1965).

heart was particularly hailed for its function of vehicle as well as engine of religious ardour.²⁷ When Giuseppe da Copertino meditated, his heart bounced as if an iron hammer was knocking inside his breast. The hammering was so hard and so painful that he could not help crying, loudly begging God to diminish the pressure. During such moments something seemed to be burning in his breast. When he touched that area with his fingers, they also became scalding hot, even the left ribs got dilated by both pressure and heat. At first the patient thought that his liver was inflamed and therefore he asked for a doctor to discuss his diagnosis. When the doctor explained to him that the liver was placed elsewhere in the human body, the patient joked: 'at least I know now where my liver is'.²⁸ This type of religious experience was of course strongly influenced by the text of the Scripture. At his take off, Giuseppe da Copertino usually quoted the Son of Songs 4.9 'vulnerasti cor meum soror mea sponsa' [thou hast ravished my heart, my sister my spouse], also the text of many contemporary baroque hymns and motets.²⁹

Obviously, Giuseppe's God-sent pains were no exception. In the innumerable post-Tridentine canonisation processes one can meet with religious men and women who inflict upon themselves physical scourges and in the name of their burning love for God perform extreme acts such as embroidering the name of Jesus in their flesh or establishing the same effect by etching the letters in their skin with sulphuric acid. It seems, then, as if God had brought on the heavy cannon in order to carry out a massive campaign against rationalism.³⁰

Vita Ioseph

Giuseppe da Copertino was born 17 June 1603, in the Calabrian village of Copertino and died at Osimo (Marche) on 18 September 1663. His father Felice Desa, a poor carpenter, died before Giuseppe was born and left behind many debts. As a consequence the creditors drove Giuseppe's mother, Francesca Panara, from her home. She gave birth to her son in a stable, which proved a very meaningful omen. In his eighth year little Giuseppe received his first ecstatic vision while at school, an experience that was renewed several times. Seeing him gape and stare on such occasions, lost to all things about him, the other children gave him the sobriquet 'bocca aperta' [open mouth]. He applied to the Capuchins at Martino near Tarento, where he was accepted as a lay-brother in 1620. His continual ecstasies, however, made him a very unsuitable labourer and resulted in his dismissal. Although thereupon his mother and uncles abused him as a good-for-nothing, Giuseppe did

27 On this Treffers, 'Il cuore malato', and Catrien Santing, '*De affectibus cordis et palpitatione* – Secrets of the Heart in Counter-Reformation Italy', in W. de Blecourt and C. Osborne (eds), *Cultural Approaches to the History of Medicine* (Basingstoke, 2003), pp. 10–32.

28 ASV RITI 2039, 359, and 'Survey of Life and the Beatification and Canonisation trials', Gustavo Parisciani, *San Giuseppe da Copertino (1603–1663) alla luce dei nuovi documenti* (Osimo Ancona, 1963) p. 359.

29 For instance ASV Congr. Riti 2043, fol. 325.

30 For a survey see Treffers, 'Il cuore malato'.

not lose hope. Through his continued prayers and after shedding many a tear, he obtained permission to work as lay helper in the stable of the Franciscan convent of La Grotella near Copertino. There he gave evidence of humility, obedience, and love of penance to such an extent that he was admitted to the clerical state in 1625. Three years later, on March 28, his ordination into priesthood followed.

His biographers relate that Giuseppe could read but poorly and therefore he was barely versed in scholarly knowledge. Yet infused by knowledge and supernatural light, he not only surpassed all ordinary men in learning but could also solve the most intricate questions. His life became one long succession of visions and other heavenly favours. Holy things and all that was somehow related to God moved him, in a both a literal and a figurative sense. The sound of a bell, church music, the mere mention of God's name, the Blessed Virgin, a saint, an event in the life of Christ, the sacred Passion, a holy picture, the thought of heavenly glory – all this would put him into contemplation or even deeper ecstatic stages. Dragging him about, buffeting him, piercing him with needles, burning his flesh with candles – none of this had any effect upon him. Only the voice of his superior would make him obey.

Frequently, the ecstasies worked to raise Giuseppe from his feet, leaving him suspended in the air for some time. Apart from great public admiration, such occurrences also caused great disturbance within the monastic community. This is why during thirty-five years he was not allowed to attend choir, nor to go to the common refectory, walk in procession or say mass in church. Instead, he was restricted to his room. In specific situations Giuseppe managed to achieve a well-balanced compromise between miraculous and proper behaviour. On one occasion a bishop who interrogated him noted a quick move up and down, but after that Giuseppe limited himself to kneeling with open arms and dilated eyes; he sat so still and rigid that when a fly was wandering across one of his pupils, he did not even blink. By linking the flyer to God, the flight was seen as causing the liberation of the soul from the senses, making it leave the body and dwell in heaven as a temporary guest.³¹

Thanks to his special connections with heaven, the suffering saint achieved the status of a second *Christus medicus*, and in this capacity Giuseppe acquired the facility to heal where trained medical doctors utterly failed. One time he went to a patient and took with him a tiny panel of the Holy Conception which he placed on a side table already in use for medicines. Amongst these stood a very fragile type of ampoule with a costly balsam. Fixing his eyes on the painted Mary, Giuseppe started to rise with open arms and subsequently descended, i.e. flew backwards, until he was again praying on his knees before the panel. Miraculously, none of the precious objects on the table had broken. Despite the fact that he proved official medicine to be redundant, its products were treated with care.³² Alcide Fabiano, the convent's surgeon, had kept the blood of Giuseppe after bleeding, and used it successfully for treatments. In the form of an ointment it effected the complete disappearance of

31 Domenico Bernino, *Vita del Ven. Padre Giuseppe da Copertino De minori conventuali* (Rome, 1722), p. 256.

32 ASV Congr. Riti 2044, miraculum 346, fols 100 and 130–2.

a cancer of the nose of one Chiara Leonello, whilst pills made from the powdered blood took away the fevers of Apollonius de Blanchiis.³³

In 1700 all preparations for Giuseppe's canonisation were ready, the only thing left to do was to abide time and wait until the prescribed fifty years had passed. Nevertheless, the pressure of his devotees to continue was so immense that in 1711 Pope Clemens XI gave dispensation and the trial was reopened. The next decades, however, things were developing very slowly as the church's lawyers, amongst whom Prospero Lambertini was the most prominent, considered Giuseppe da Copertino and his miracles to be too vague and too crazy. In 1735 the Congregation of Rites even assembled plenary in the presence of Pope Clemens XII and judged 'il dubbio su eroicità delle virtù del Padre Copertino' [the doubt about the heroism of Padre Copertino's virtue] and so the heroic character of Father Copertino's virtues was doubted. In the end, though, after having been elected pope, Benedict XIV saw reasons to give in. On the 24 February 1753, he beatified the flying saint, whose canonisation followed in 1767.³⁴

Several examples of Giuseppe's strange yet officially miraculous behaviour shed light on the appearance, way of acting, and proceeding of the prospective saint, including the various forms of reception. Already in childhood he suffered from many ailments. He had a festering wound on his leg and none of the expensive ointments physicians prescribed gave relief. After five years he heard about a hermit who made miraculous cures and seemed to know what he was doing, as he had at one time been working as a surgeon at the Neapolitan Ospedale degli Incurabili. Alas, the parish priest forbade little Giuseppe's voyage to the hermitage. Meanwhile, the child developed gangrene in his hands and feet. Then the hermit decided to come to the village of Copertino. Upon his advice a wooden cross was constructed, to which Giuseppe was fastened. The former surgeon first touched the affected body parts with a silver fork after which he cut away the rotting flesh of the size of a melon or a hat, while Giuseppe was screaming for a real physician. In the end, he fainted when the treatment was completed by a cauterising iron. The pain, however, remained, and only passed after his mother went to see the hermit. The man gave her a portion of oil from the lamp that lit his cave. After this oil was applied to the wounds, Giuseppino could move his legs again and was cured completely. Official witnesses treating the possibilities and impossibilities of this kind of curing were: Alcide Fabiano chirurgo, Pierpaolo Francesco, dottore in chirurgia, Michelangelo da Montealboddo, lettore di filosofia from Fossombrone and Dottore Carosi, a famous physician from the Marche. These names and their depositions in the 1660s already prove the increasing medicalisation of canonisation processes.³⁵

During his life Giuseppe da Copertino inflicted upon himself several physical ailments for which medical doctors repeatedly had to attend his bedside. This is what happened to Carosi and Fabiano, who once had to perform a cauterisation on the leg of the saint. The surgeon took the leg, placed it on his knee and noticed that the saint's

33 ASV Congr. Riti 2044, miracula 359 and 360, fols 67, 68, 110, 101.

34 Parisciani, *Giuseppe da Copertino* contains a detailed survey of San Giuseppe's life and the beatification and canonisation processes.

35 Parisciani, *Giuseppe da Copertino*, pp. 16–19.

eyes were turned away and his arms opened. It turned out that Giuseppe had stopped breathing, but the next moment his complete body rose more than a palm in the air. The surgeon tried to pull him down with force, but did not succeed at all. The harder he dragged, the higher the saint flew. In the end the surgeon decided to let his patient go and he knelt down at his bedside in order to pray. For more than half an hour, Copertino remained floating above his bed, deprived of all his senses as if he had passed away. Suddenly, as the Vita says, he was back alive, calling the surgeon by his name and asking him to start with the cauterisation. Ceruscio answered that the treatment had already been finished and pointed to the neatly bandaged leg. As if he himself wanted to furnish extra evidence of the fact that he had left his earthly frame for a certain amount of time, Copertino concluded: 'I did not feel anything.' When the saint again needed bloodletting two other ecstasies lasted as long as a proper bleeding required.³⁶ After flights he had no memory at all of what had happened to his body. Often his air travelling called up curative effects, because one time the elevation took away heavy pains in the bones. This challenge of gravitation never resulted in injuries, not even in knee problems caused by careless landing. While airborne, the monk's habit continued to cover up the whole body, emphasising his strict adherence to the standards of common decency.³⁷

After a deathbed of 40 days (*sic!*) Copertino passed away to meet his Maker, which means that his final illness started on 10 August, the day of the Ascension of his heroine the Virgin Mary. On that day heaven is said to have opened itself to him and a heavy fever assaulted the saint's body. Soon nearly all strength had left him. Every day doctors and surgeons attended his bedside, but despite their extensive treatments, he grew weaker and weaker, a process that was paralleled by his growing love for God. All these days, he only could stammer: 'Oh amore oh amore' in the meantime clasping both hands against his breast on the place of his heart, as if this organ already wanted to flee the burning fire before it would stop beating. Initially, the saint would leave his bed in the early morning in order to celebrate mass, but soon the religious rites took place in his room. Each time he received the Eucharist, he exclaimed: 'Ecco la gioja, ecco la gioja' [the joy, behold the joy], his constantly pallid face took on some colour and his eyes started to sparkle. When the host had passed the throat and was digested, his features regained their deadly white appearance. To describe the process of dying to his fellow brothers, Copertino made up an analogy. He told them that he felt as if he was donkey climbing a mountain. Halfway to the top, the animal had given up as he could not move anymore, and was on the verge of shedding his skin. That was exactly the moment at which the last sacraments were administered, and suddenly the moribund started to feel himself as a fish being replaced in the water. An ecstasy occurred and all the superfluous love of his soul rose to God. Meanwhile, his voice was still able to speak and reported to the bystanders what was happening. The angelic choirs sounded melodious and harmonious, Paradise not only smelt very exquisite, it also tasted delicious: 'Oh che fraganze, oh che dolcezze di Paradiso, oh che gusto.' When he spoke his last words 'Piglia questo cuore, piglia questo cuore, abburgia e spacca, Gièsu mio,

36 Bernino, *Vita Copertino*, pp. 256–7.

37 ASV Congr. Riti, 2039, fol. 242.

questo cuore' [grab this heart, grab this heart, and break my heart open, my Jesus], he touched the left part of his breast as if he wanted to stress the fact that only his heart was speaking. With a heavenly glow on his face, the saint's soul took off for its last upward voyage and ascended to heaven. This time, however, his earthly remains were left behind.³⁸

When the next day church officials ordered the heart to be opened, the pericardium was found to be completely dried out. The reports state that on account of an enormous heat all liquid had been vaporised. Even then, the temperature of the breast was still so high that it burned a hole in the linen shroud over the body. Despite this burst of flame, the beard and hairs of Copertino miraculously remained unharmed, a wonder that had also occurred to Moses once when he was standing near the burning bramble bush (Exodus 2, 3), the hagiographer could not refrain from mentioning.³⁹

The Art of Flying

According to his first hagiographers, Roberto Nuti and Domenico Bernino, Giuseppe used to be more with his 'soul in heaven than with his body on earth'.⁴⁰ Each time he called upon God, the body of the (future) saint shuddered vehemently. Trying to open his chest, his heart almost broke into pieces. After one such request he started singing:

Giesù, Giesù, Giesù
 deh tirami la sù,
 la sù in Paradiso,
 che là godrò il bel viso,
 là ti posso più amare
 e con gli angeli lodare.
 Giesù, Giesù, Giesù,
 non vorrei star più quaggiù,
 vorria venir là sù.⁴¹

It may seem odd to us but Benedict XIV surely believed that Giuseppe da Copertino was capable of flying. In the *Breve* he issued at the beatification, we find the fact especially stressed that his body was repeatedly lifted thanks to his great burning love for God. Most important, however, was that the new beatus answered all the criteria the pope had outlined in his handbook. His theological and secular virtues were certainly heroic, whereas his lifestyle passed for impeccable, notably regarding

38 Bernino, *Vita Copertino*, pp. 258–73.

39 Bernino, *Vita Copertino*, pp. 280–1. Also, ASV Congr. Riti 2043, fol. 388.

40 Roberto Nuti, *Vita del servo di Dio Fra. Giuseppe da Copertino dell'Ordine de' Minori Conventuali* (Palermo, 1678), p. 516, and Bernino, *Vita Copertino*, p. 287. See also Parisiani, *Giuseppe da Copertino*, p. 326.

41 'Jesus, Jesus, Jesus, come on, pull me up, there above in Paradise, where I shall enjoy your beautiful face, there I can love you more and praise you with the angels. Jesus, Jesus, Jesus, I do not want to remain down here below; I want to come up there.'

virtues such as humility, simplicity and obedience. Thanks to the grace of God he had held a very special bond with heaven. His union with God was so heartfelt that the fire of divine love almost made his heart burst. The incredible internal love also penetrated his body to the point it nearly started to burn, which occasionally caused ecstasies or even raptures. Thus, so the conclusion was, although Giuseppe was an earthly resident, thanks to his vehement desire for God, sometimes he seemed more at home in heaven.⁴² It is easy to find parallels in the canonisation trials, showing that the pope judged according to official lines. In the Assisi process that reviewed occurrences from the years 1645–52, Giuseppe's behaviour was compared to that of birds, which fly up from earth as much as possible. Much like God's real servants on earth, birds are here only to bow their heads and take little bites, just enough to enable them to rise and sing.⁴³

Performing levitation provides insight into the process of the body's spiritualisation, which was the ultimate goal – not merely of Copertino, it should be added: it is what all Counter-Reformation religion was about. According to the *Dictionnaire de spiritualité* the process of physical uprising is the consequence of the soul becoming completely supernatural, thus detaching the human body from the laws of gravitation. This is to be interpreted as an incipient participation of the human body in the properties of the glorified bodies of the sanctified, given that it involved full power of the spirit over the body. When the aspiration towards heaven became dominant, the body followed thought and due to the psychological unity in man, it could conquer the forces of gravity.⁴⁴ The fundamental criteria for defining an ecstasy, rapture or elevation were again formulated by Lambertini. In his *Doctrina* he discussed opinions since Plato that touched upon the body/soul relationship. A rapture was a stronger form of ecstasy that caused vehement movements of the body resulting in ascents. Based on the work of Zacchias, he discusses natural, also non-miraculous, causes for these movements, among which epilepsy evoked by too much *spiritus animalis* in the brain figures most prominently. The conclusion was that ecstasies of a natural origin could not lead to risings. Also the devil was able to work flights, such as was explained by Jamblichus in case of Pythagoras and by Baronius for Simon the Magus. In these cases the flights were to be attributed to non-natural workings, while the contortions of the body were even worse than with epilepsy because lust functioned as a causal factor. Only when God in person or via a good angel decided to estrange a person from his senses enabling him to contemplate the divine completely, did the body came decorously loose from the ground. A both stylish and decent style of floating was a sign of divine intercession, while demonically instigated air traffic often involved the uttering of feral screams.

42 Printed in: *Benedicti Papæ XIV doctrina de servorum Dei beatificatione et beatorum canonizatione, in synopsis redacta ab Emmanuele de Azevedo* (Brussels, 1840), pp. 431–2. See on the *Breve* Parisciani, *Giuseppe da Copertino*, pp. 1029–30.

43 ASV Congr. Riti 2044, fol. 619.

44 Isaias Rodriguez, 'Lévitation', in Marcel Viller, F. Cavallera and J. de Guibert (eds), *Dictionnaire de spiritualité, ascétique et mystique: Doctrine et histoire*, 17 vols (Paris, 1933–95), vol. 9, pp. 738–41. See also Oliver Leroy, *La Lévitation: Contribution historique et critique à l'étude merveilleux* (Paris, 1928), esp. pp. 190–202.

Divinely brought-about flights went with completely mortified senses, as happened to Ignazio de Loyola, who in such situations could walk over fire. Sainly flights were also recognisable by the heavenly glow on the face and usually occurred while praying, celebrating mass and especially when taking the Eucharist.⁴⁵ Copertino's levitations also happened in the direction of devotional images or crucifixes hanging above altars. Once he skimmed over the heads of the ambassador of Castile and his wife to embrace a picture of the Virgin Mary in 'volo supranaturale' [supernatural flight].⁴⁶

So, first the material body had to turn into a spiritual body thanks to the infusion of religious fervour and consequently, if the divine fire was hot enough, it might start to float. The paradoxical element is that although material contact with heaven was judged to be crucial, the material parts of those involved had to be mortified before they could attain spiritual status. *Mortificatio*, therefore, is a central theme in all official *vitae* or saints' lives as well as in the testimonies of canonisation processes of the early modern period. Padre Fazio, the master of the Jesuit novices at St Andrea al Quirinale in Rome, even published a special handbook on this at the end of the sixteenth century, putting starvation of the emotions and all sensory reactions on a par with the conservation of purity.⁴⁷ According to the Jesuit, the end of mortification was not to completely uproot the passions. By their nature they are not evil since they could even be good and were even necessary for the acquisition of many virtues. Mortification was aimed at curbing the inordinate liveliness and frivolity, liable to defile the life of man with many evils and confusions. Before the (future) saints could transform themselves into truly spiritual beings and ascend to heaven, they had to escape all negative physical *affetti*, which implied dying in a certain way. This assertion completes the paradoxical reasoning: a body can show the marks of something spiritual: religious conviction and experience, but only turns into something spiritual itself when the senses do not work any more, that is to say, are mortified.⁴⁸

Counter-Reformation saints such as Filippo Neri, Stanislaus Kostka, Francesco Xaverio, Carlo Borromeo, Catharina de' Rizzi, Teresa d'Avila and many others, likewise executed higher or lower levitations, but Giuseppe da Copertino was the most impressive, that is, the highest flyer. His levitations sometimes resulted in flights from the pulpit in church as high as the top of the crucifix hanging in the choir of the Brothers, or even around the peak of a church tower. Filippo Neri was one the champions of this type of temporary rising and, next to Francis of Assisi (Giuseppe also received the stigmata), it is particularly him, the laughing apostle of Rome, who furnished Copertino's model of sanctity: also their heart conditions were very much the same. He performed many levitations of, in general, several palms of a hand high. The performance occurred while celebrating mass, preferably at the moment

45 Lambertini, *Doctrina*, 195–7.

46 ASV Congr. Riti, 2044, miraculum 340, fols 130, 131.

47 Joseph Majkowski, *Saint Stanislaus Kostka: A Psychological Hagiography* (Rome, 1972), p. 193.

48 Of course, the *mortificatio* is extensively treated by Ignazio de Loyola in his *Spiritual Exercises*.

he lifted the Corpus Christi above his head. Other types of levitations took place when he was lying ill in bed and the doctors could not cure him. Seeing Mother Mary in a vision, he started to rise. His hagiographers state that these elevations could be invoked by concentrating his mind completely on God. When the mind of the holy man returned to earthly matters, the body landed again on the ground, or, as in this case, in his bed.⁴⁹

All the physical inflictions manifesting themselves on the body as religious tokens, the so-called ‘body as an engine of faith’, demonstrate that the soul was not supposed to need its material confinement and was expected to be able to escape its cage. Once Copertino explained what happened to him and especially what occurred to his body when he levitated and his soul united itself with God. The saint used a telling metaphor and compared his soul to a queen in company of two ladies in waiting – the senses. In a case of levitation, the whole party took off to be received in the chamber of the king: God. Nevertheless, when everybody arrived on the threshold only the soul was allowed to enter the throne room. Standing deadly still without making any movement, the senses remained outside as long as the soul had her audience with the king. The account was finished with the conclusion that persons upon whom God had bestowed his special graces were the only ones able to perform these heavenly ‘jumps’. Nonetheless, despite this celestial election, the *salti* emanated from humility, hailing the greatness of God and the misery of mankind.

In the canonisation trials much attention is paid to the miraculous rising, which shows that advocates regarded these as problematical cases.⁵⁰ The screening was meticulous, finding answers to questions such as where the flight took place, how far it went and how long it rested, whether he used his hands or not, who witnessed it, when it happened, if he cried, laughed or sang, but again and again the conclusion was unconditional ‘prodigiosus apparuit et modo supernaturalis’ [it appeared marvellously and by a supernatural way].⁵¹

Outwardly, the senses of the person engaged in rapture seemed to be completely dead – the senses standing mute and immobile on the threshold. This did not hinder them from somehow participating in the encounter with God, but it happened in what Copertino called ‘sweet oblivion’. Involved in an ecstasy, he clarified, the flesh reacts as a person with large appetite who witnesses the preparation of exquisite food and as a result of that feels completely satisfied.⁵² On the other hand, the soul needs its physical frame to show its vitality and force by flying up and down its final destination into heaven. We have seen that, in a certain way, the senses took part in the temporary transmigration of the soul. During an ecstasy or rapture, the senses gave no more signs of life and thus might be looked upon as extreme forms

49 Santing, ‘De affectibus’. In general, Antonio Gallonio, *La vita di San Filippo Neri pubblicata per la prima volta nel 1601*, ed. by Maria Teresa Bonadonna Russo (Rome, 1995), and L. Ponnelle and L. Bourdet, *Saint Philippe Néri et la société romaine de son temps (1515–1595)* (Paris, 1929).

50 ASV Congr Riti 2044, for instance, contains 800 folios with ecstasies, raptures and levitations.

51 ASV Congr Riti 2044, fols 60–7r.

52 ASV Congr Riti 2039, fol. 242; Nuti, *Vita Copertino*, p. 50. Also Parisciani, *Giuseppe da Copertino*, p. 442.

of mortification. To onlookers the spiritual body was perceived as a dead body. Nonetheless, as the story of Copertino on the soul as queen with the senses as her ladies in waiting tells us: inwardly the senses lived and partly shared in the temporary ascension accomplished during levitation.

Saints and Science

This discussion of the miracles of Copertino and the work of his ‘sanctifier’ Prospero Lambertini demonstrates that in earlier times religion often found physical expression, mostly in pain and ailments, but sometimes too in sweet fragrances and taste. To be sure, this conclusion is hardly original, in the sense that Carolyn Walker Bynum, Miri Rubin and many others in their wake have published widely on this same theme. Their studies, however, mainly concern medieval religiosity. Contrary to expectation, perhaps, things got much worse in post-medieval times, thanks to the Counter-Reformation, and this process persisted into the Enlightenment as evidenced by the beatifications and canonisations allowed by Lambertini.

If the studies by Piero Camporesi have gone somewhat out of fashion, I feel that they very convincingly, albeit not very succinctly, express the pre-modern worldview, as in such titles as *Il sugo della vita. Simbolismo e magia del sangue* (1984, *The Juice of Life*) and *La carne impassabile* (1983, *The Incorruptible Flesh. Bodily Mutation and Mortification in Religion and Folklore*). Specifically, Camporesi tried to explain to his readers that the pre-modern *condition humaine* was decided by the functioning of senses such as seeing, smelling, hearing and tasting, thus stating that the description of physical reactions could function as new entries to Ancien régime imagination and *habitus*. His views seem to have found recent acclaim in the catalogue of an exhibition the Vatican Museums, organised in 2003, on the representation of visions and ecstasies in Baroque art. The above-quoted article by Marc Fumaroli, who declared the excessive behaviour of sixteenth- and seventeenth-century saints the last manifestation of Platonic amorous philosophy that had started with Euripides’ *Bacchantes*, Dionysian trances and manifold mania, functioned as its introduction. Here, I would like to take his argument somewhat further, by placing Prospero Lambertini in this context. Around 1700 the French archbishop and royal governor Jacques Bossuet (1627–1704) fought antirational currents in Catholicism by writing an *Introduction à la philosophie, ou Traité de la connaissance de Dieu et de soi-même* (1722), which was deeply influenced by Cartesian philosophy. The French-oriented Lambertini in a similar way thought to rationalise the Catholic faith by stripping from it theological subtleties as well as devotional excess. Of course control of the senses was desirable, so the flesh does not stand in the way of spirit, but mortification was not a virtue, just an instrument to achieve this.⁵³

His friendship with the critical historian and philosopher Ludovico Muratori, the author of works with telling titles such as *De ingeniorum moderatione in religionis negotio* (1714), *Della regolata divozione de’ Cristiani* (1723) and *De superstitione vitanda* (1742) shows how Lambertini wanted to use new scholarship for the

53 On this, see Haynes, *Philosopher King*, pp. 85–6.

purification and intensification of the Catholic church as both an institution and a community of believers. Also his open acceptance of William Harvey's theory of the circulation of blood, reducing the heart to a mere muscle, and his acquaintance with Isaac Newton's ideas on gravitation, did not stop him from canonising religious people who were smart and strong enough to combine the 'Scienza dei santi' with the theological reasoning of the Roman curial magistracy. Thanks to Prospero Lambertini, until today the Catholic Church has managed to keep upright its impressive construction of theologian mysticism with its secure methods for making direct contact with God.

This also implies that science existed in pre-modern times, if under the disguise of *Scientia* or *Scienza*, meaning already-systematised knowledge, and approaching the current use and signification of the word 'science'. Lambertini's contemporary, the Roman Jesuit Liborio Siniscalchi (1674–1742), in his 600 pages *La scienza della salute eterna* – and there are many more of these works – aimed to teach such real, eternal knowledge. By taking the reader step by step through a detailed procedure of praying and contemplating, illustrated by quotations from the Bible and Saints' Lives, he or she is shown how to (be able to) embrace the ultimate goal: meeting God. The only thing a human being's final breath should express is *l'amore di Dio*. This is also what Prospero Lambertini asked for, as suggested by the conclusion of his *Breve* on Giuseppe da Copertino: 'in an intimate union with God, the heart enflamed out of Love for God, and it was almost torn apart by this sweet love, whereupon ecstasies and raptures occurred'.⁵⁴

54 'Ex hac intima cum Deo unione adeo cor eius divinae Charitatis igne corripiebatur, et incredibile internae dulcedinis amore totum deflagrabat, ut in ectases et raptus aliquando erumperet', Lambertini, *Doctrina*, p. 432.

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Medicine, Enlightenment and Christianity in Eighteenth-Century France: The Library Evidence

L.W.B. Brockliss

The image of medical practitioners in European literature before the nineteenth century was largely a negative one: at best they were ignorant quacks, at worst godless necromancers and poisoners who would sell their souls to the devil for earthly delights.¹ Some substance was given to this myth in eighteenth-century France through the fact that a number of physicians played a significant role in the development of the anti-Christian Enlightenment. The Leiden-trained Julien Offray de La Mettrie (1709–51) was the most famous public exponent of atheism and materialism in the middle decades of the century, just as the Paris graduate, Pierre-Jean-George Cabanis (1757–1808) was at the end.² Physicians, too, were closely associated with Diderot and d'Alembert's *Encyclopédie* (1751–65), the principal organ for the dissemination of enlightened ideas in eighteenth-century Europe, even if it was not stridently religiously unorthodox. Not only did the editors give a clutch of Montpellier vitalists the chance to promote their neo-materialist views that organic matter could move and organise itself, but they entrusted another Leiden-educated physician, the chevalier Louis de Jaucourt (1704–79), with the task of writing large numbers of articles on a wide variety of subjects for which they had failed to engage an expert author.³ Diderot, too, hammered home this connection between medicine and materialism in his fictional dialogue, *Le Rêve de d'Alembert*, written in 1769 and only published after his death. In this subtle exploration of the nature of life, the

1 The tradition goes back to Tacitus and Suetonius. For Molière's notorious portrayal of the medical profession in the reign of Louis XIV, see Laurence Brockliss and Colin Jones, *The Medical World of Early Modern France* (Oxford, 1997), pp. 336–44.

2 Kathleen Wellman, *La Mettrie: Medicine, Philosophy and Enlightenment* (Durham, NC, 1992); M.S. Staum, *Cabanis: Enlightenment and Medical Philosophy in the French Revolution* (Princeton, NJ, 1980). For the spread of materialism across Europe in the first part of the eighteenth century and the contribution from individual medical practitioners, see Jonathan Israel, *Radical Enlightenment: Philosophy and the Making of Modernity 1650–1750* (Oxford, 2001).

3 Frank A. Kafker, *The Encyclopédistes as a Group: A Collective Biography of the Authors of the Encyclopédie* (Oxford, 1996); Jacques Proust, *L'Encyclopédisme dans le Bas-Languedoc au XVIIIe siècle* (Paris, 1966). For vitalism at Montpellier, see Elizabeth Haigh, *Xavier Bichat and the Medical Theory of the Eighteenth Century*, *Medical History* suppl. 4 (London, 1984). Jaucourt was not a vitalist but a iatromechanist who believed organic matter was inert.

character in the dialogue accorded the most radical sentiments was the Montpellier vitalist, Théophile de Bordeu (1722–76).⁴

It is unlikely, however, that the physician *philosophe* was typical of the eighteenth-century French medical community. Voltaire's Paris doctor in his last months, the Genevan born, Théodore Tronchin (1709–81), was a fervent supporter of the latest medical fads, such as smallpox inoculation and fresh air therapeutics, but he had no time for religious novelty, sharing none of his patient's deistic scepticism. Shortly after the *philosophe*'s death in May 1778, he wrote to his equally pious Swiss friend, the naturalist Charles Bonnet, declaring that the sage of Ferney's miserable end would be enough to bring any lost sheep back to the fold. 'If my [Christian] principles had need of being more tightly bound, the man I have just seen perish, endure agony and die would have ensured they were tied in a gordian knot.'⁵ If a physician so close to the fountain of enlightenment had no truck with materialism, it is unlikely many of his colleagues, in Paris or the provinces, would have broken decisively with their Christian inheritance, all the more so given that they would all have received a good Christian education. All physicians, surgeons and apothecaries would have spent up to seven years in their teens studying the Latin and Greek humanities in a French college, prior to their medical studies. As the colleges for the most part were run by the regular teaching orders, even after the suppression of the Jesuits in 1762–3, the students would also have received detailed instruction in the Catholic religion. Each day would have begun with attendance in the college chapel; most would have taken their confessor from within the order; while the spiritually athletic would have been members of a college religious fraternity.⁶ If the students learnt anything at all of contemporary anti-Christian thought while at school, it would normally only have been the result of reading Christian apologetics. At Bourges in the late 1770s and early 1780s, boys received Nicolas Bergier's *Examen du matérialisme* and *Déisme réfuté par lui-même* as end-of-year prizes.⁷ Physicians would have further completed their studies with a two-year course in philosophy where they would have been taught the unimpeachability of Cartesian dualism.⁸

Proving the religious orthodoxy of the eighteenth-century French medical community, however, is a different matter. The community on the eve of Voltaire's death was huge. It contained at least 3000 graduate physicians, 15,000 surgeons and 6000 apothecaries, plus a countless host of uncertificated empirics.⁹ Gaining a full insight into their spiritual opinions could only be done by uncovering a cross-section

4 Bordeu, *inter alia*, wrote the important article in the *Encyclopédie* on 'Crises': vol. 4, pp. 472–89.

5 Letter cited in René Pomeau, *Voltaire en son temps*, vol. 5, *On a voulu l'enterrer* (Oxford, 1994), p. 321. For Tronchin's medical views, see H. Tronchin, *Un Médecin du XVIIIe siècle: Théodore Tronchin, 1709–1781* (Paris, 1906).

6 L.W.B. Brockliss, *French Higher Education in the Seventeenth and Eighteenth Centuries* (Oxford, 1978), esp. chapter 2. Bergier was one of a number of clerics who attacked Voltaire's *Dictionnaire philosophique* of 1763: see Christiane Mervaud, *Le Dictionnaire philosophique de Voltaire* (Oxford, 1994), esp. pp. 139–44, 155–7.

7 Archives départementales du Cher, D 357–64: annual prize lists.

8 Brockliss, *Higher Education*, chapter 4, sect. iii.

9 Brockliss and Jones, *Medical World*, esp. pp. 520, 522–3, 527 (tables).

of their wills and studying the religious provisions. Even this approach would not be fool-proof. Many years ago, the French historian, Michel Vovelle, attempted to chart the changing religious allegiance of the pre-Revolutionary inhabitants of Provence through the surviving testamentary evidence. On finding an increasing proportion of the middle classes no longer left money to the Church after 1750, especially so that masses could be said for their souls, he concluded, as a good Marxist, that a new era of dechristianisation had set in. Unfortunately, as he admitted in his introduction, it might simply have been the case that traditional 'baroque' spirituality had given way to a more austere Jansenist piety that placed a higher premium on supporting secular charities.¹⁰

While awaiting a suitably nuanced analysis of the testamentary evidence from the pen of an *annaliste* historian of medicine, a considerable degree of light could be thrown on the philosophical allegiance of the elite of the medical community through a study of printed library lists. Many affluent physicians and a number of surgeons and apothecaries, especially in the capital and other large cities, built up large collections of books, which were sold at auction by their heirs. In preparation for their sale, the bookseller would publish a catalogue of the library's contents, where the books would be listed under five principal heads – theology, jurisprudence, science and arts, belles-lettres, and history – which were in turn broken down into an indeterminate number of sub-categories. Since these catalogues would be distributed widely to potential buyers, many inventories have survived. Michel Marion discovered the sales catalogues of 52 libraries belonging to medical men in the Bibliothèque nationale and several others exist in the Bodleian and British Libraries.¹¹ The smallest list only a handful of titles, but half more than 1000. Admittedly, no medical library came near to matching the great aristocratic collections of the century. When the Paris-based duc de Vallière died in 1783, he left a library of 50,000 volumes, many rare and precious, including 1130 incunabula and a large number of Gothics.¹² However, a number of medical men had respectable holdings. La Mettrie had 2008 titles and Tronchin 7070. The largest medical library was left by the Parisian physician, Camille Falconet (1671–1762), who possessed a collection of nearly 20,000 titles and 50,000 volumes when it was catalogued in 1763. In the *Encyclopédie* the collection was described as 'infinitely precious by the number and quality of the books it contains, but even more by the use [the owner]

10 M. Vovelle, *Piété baroque et déchristianisation en Provence au XVIIIe siècle: les attitudes devant la mort d'après les clauses des testaments* (Paris, 1973). Under the influence of Roman law, many more people testated in France than in England, making this kind of study feasible. It would be possible to go through selective notarial registers in departmental archives looking for medical men. For the Augustinian Jansenist wing of the French Church in the eighteenth century, see J. McManners, *Church and Society in Eighteenth-Century France*, vol. 2, *The Religion of the People and the Politics of Religion* (Oxford, 1998), chapters 35–43, 48.

11 M. Marion, *Collection et collectionneurs des livres au XVIIIe siècle* (Paris, 1999), esp. chapter 3. Marion found 1032 catalogues: all are listed in the second half of the book.

12 Dominique Coq, 'Le paragon du bibliophile français: le duc de Vallière et sa collection', in Claude Jolly (ed.), *Histoire des bibliothèques françaises*, vol. 2, *Les Bibliothèques sous l'Ancien Régime, 1530–1789* (Paris, 1988), pp. 317–29.

knows how to make of them'. In the eyes of the *philosophes*, Falconet was a good collector because he opened his library to other scholars.¹³

A study of the catalogues of just three of the larger libraries left by relatively unknown members of the Paris medical community demonstrate the potential of the source.¹⁴ Etienne-François Geoffroy (1672–1731) was a wealthy physician, chemist and academician, who hailed from a dynasty of Paris apothecaries.¹⁵ His library sales catalogue listed 2256 titles.¹⁶ Although he was an Anglophile and had been one of the first to promote Newton in France, he seems to have taken little interest in the freethinking literature beginning to appear in Britain.¹⁷ He had Hobbes's *De cive* and Pierre Coste's French translation of Locke's *Essay Concerning Human Understanding* but nothing more remotely risqué. Dutch radical thought had similarly passed him by, although he did have a copy of Pierre Bayle's *Dictionnaire* in a 1715 edition. Not surprisingly, he had no copy of Montesquieu's *Persian Letters*, which had been published in 1721. He had a selection of Bibles, one in a French translation, plus several devotional works. The fact that he had a 1670 edition of Pascal's *Pensées* might suggest he was of a Jansenist persuasion, but nothing suggests that he was in any way religiously unorthodox.¹⁸

Half a century later, when Enlightenment radicalism was now firmly seated in France, the catalogues of the surgeon, Sauveur-François Morand (1697–1773), and the physician, Hyacinthe-Théodore Baron (1707–87), suggest a greater openness to free-thought, yet still no heart-felt commitment. Morand was one of the elite corps of Paris surgeons who dominated the Académie de Chirurgie, established in 1731, and had an international reputation. He was a corresponding member of learned

13 Diderot (ed.), *Encyclopédie*, vol. 2, p. 237, sub 'Bibliothèque'.

14 Larger libraries were chosen because they nearly always contained good collections of non-medical books. The core of any medical practitioner's library was always his medical texts.

15 P. Dorveaux, 'Journal de Matthieu-François Geoffroy, maître-apothicaire de Paris 1644–1708', *Bulletin de la Société française d'histoire de médecine*, 5 (1906): 72–104; David J. Sturdy, *Science and Social Status: The Members of the Académie des sciences, 1666–1750* (Woodbridge, 1995), esp. pp. 328–32; L.W.B. Brockliss, 'Consultation by Letter in Early Eighteenth-Century Paris: The Medical Practice of Etienne-François Geoffroy', in Ann La Berge and Mordechai Feingold (eds), *French Medical Culture in the Nineteenth Century* (Amsterdam, 1994), chapter 2.

16 *Catalogus Librorum viri Cl. D. Stephani-Francisci Geoffroy, doctoris medici, antiqui facultatis Parisiensis decani...* (Paris, 1731); Marion, *Collection*, no. 274, records 2123 titles. The bulk of Geoffroy's collection was medical books. Catalogues exist of two other members of the Geoffroy dynasty in the eighteenth century, who had much smaller libraries, both apothecaries: see Marion, *Collection*, no. 375.

17 Geoffroy read a précis of Newton's *Optics* (1704) to the French Academy of Sciences in 1706–7: see Henry Guerlac, *Newton on the Continent* (London, 1981), pp. 102–3.

18 Several of the Faculty were Jansenists at this date: see L.W.B. Brockliss, 'The Medico-Religious Universe of an Early Eighteenth-Century Parisian Doctor: The Case of Philippe Hecquet', in Roger French and Andrew Wear (eds), *The Medical Revolution of the Seventeenth Century* (Cambridge, 1989), chapter 7.

academies all over Europe and counted Cheseldon among his friends.¹⁹ Morand left a library of 2298 titles, an extremely large collection for a surgeon, among which were 25 works of philosophy and 230 books listed under the heading 'Belles-Lettres'. There can be no doubt that he had a reading acquaintance with the world of the *philosophes*. Besides Bayle's *Dictionary*, he had Silhouette's translation of Pope's *Essay on Man*, he had the collected works of Montesquieu in the 1758 Amsterdam edition, as well as a 1721 *Lettres persanes*. He also had number of separate titles by Voltaire, plus a ten-volume collection of the philosopher's works published in 1751.²⁰ On the other hand, he had only dipped his toes in the sulphurous philosophical brine, for he had nothing by Rousseau, except his *Discourse on the arts and sciences* (1750), nor any work by a member of the atheistical coterie around d'Holbach.²¹ Even his commitment to Voltaire was limited to the poet and the tragedian: he had the *Henriade* and the plays but none of the critical *contes* or philosophical texts.²²

Indeed, Morand's holdings under theology suggest he was again an orthodox Christian with a Jansenist bent.²³ He had Bergier's *Déisme réfuté*, Nicole's *Essais de la morale* and Pascal's *Provincial Letters*. He also owned several attacks on Voltaire the *philosophe*, including the *Lettres de quelques juifs portugais et allemands*, à M. Voltaire of 1770 by the Amiens canon, Antoine Guénée.²⁴ There again, Morand may have harboured anti-Trinitarian views, for his library contained a copy of Toland's 1718 *Nazarenus*, which claimed that Islam was a truer reflection of Christ's teaching than Christian orthodoxy, and he also possessed three works devoted to freemasonry. Still, many eighteenth-century Catholic Christians, including Louis XVI, were freemasons, so little can be made of the fact, just as he may have bought the Toland in error.²⁵ All things considered, Morand's acquaintance with free-thought was seemingly minimal. The most that can be said is that he had some commitment to politeness and improvement. He owned a 1730 London edition of the *Spectator* and had several works of political economy, including the *Ami des hommes, ou traité sur la population* (1756) by the physiocrat, marquis de Mirabeau.²⁶

19 *Catalogue des livres de la bibliothèque de feu M. Morand* (Paris, 1774), prefatory letter (by his son). For the Académie de Chirurgie, see Brockliss and Jones, *Medical World*, pp. 578–90.

20 Nos 1941, 1966, 2023–5, 2046, 2305. Morand had no Locke.

21 No. 1859.

22 Although a hymn to religious toleration, the *Henriade*, Voltaire's early attempt at an epic poem, was read in the college classroom as a suitable panegyric to patriotism, unity and absolute monarchy: see Brockliss, *French Higher Education*, p. 135.

23 No. 148. He also had Chambers, *Cyclopaedia* (London, 1751) and supplement (1753).

24 Nos 44, 45, 104, 1986. For Guénée, see Mervaud, *Le Dictionnaire philosophique*, pp. 156–9.

25 Nos 110, 1995–7. For a good recent introduction to freemasonry, see Pierre-Yves Beaurepaire, *La République universelle des franc-maçons* (Rennes, 1999). Morand also had a soft spot for villains. No. 2301 was *The Life and Glorious Actions of the Most Heroic and Magnanimous Jonathan Wilde* (London, 1755).

26 Nos 148, 173.

Baron had none of Morand's intellectual élan. Although a high-ranking army medical officer – he enjoyed the rank of *premier médecin des camps et des armées du roi* in Italy and Germany – he wrote nothing about his experiences and made no obvious contribution to medical knowledge. His one lasting claim to fame was as a collector of student medical theses sustained in the Paris faculty, which has made possible a detailed reconstruction of the faculty's teaching from the mid sixteenth century.²⁷ He was also a noted bibliophile who bought heavily from German and Dutch booksellers and cared greatly for his purchases: he apparently never wrote in the margins of his books but inserted sheets at the beginning and end of the work for this purpose.²⁸ When Baron died he left a huge library of 6131 titles, of which nearly half was composed understandably of medical works but a third belles-lettres and history. His philosophical holdings suggest a man with a solid acquaintance of contemporary enlightened philosophy. He had Locke's *Essay* (in Latin), Condillac's *Essai sur l'origine des connaissances humaines* (1741), Mandeville's *Fable of the Bees* (in a 1750 French edition), and the *Œuvres philosophiques* of Hume (Amsterdam, 1759). He was also well read in modern politics and economics, having Montesquieu's *Spirit of the Laws*, Rousseau's *Principes du droit politique* (1762) [presumably the *Contrat social*], Mably's utopian *Entretiens de Phocion* (1763), and works by Mirabeau and the now largely forgotten writer on trade, Melon.²⁹

On the other hand, Baron had no works which explicitly attacked Christianity and the Catholic Church: there was nothing by Diderot, Helvétius or d'Holbach, and none of Voltaire's polemics, let alone any deistic or atheistical treatise from abroad. His exposure to anti-Christian thought came only through his immersion in contemporary literature: he had Montesquieu's *Persian Letters*, an edition of Voltaire's *Lettres philosophiques* (or *Letters from England*) and another of his *contes*, and Marmontel's *Belisaire*, a paean to toleration censored by the Sorbonne in 1766.³⁰ In consequence, Baron can hardly be categorised as a freethinker. More plausibly, he was a tepid believer. Not only did he show no interest in contemporary Christian apologetic, but for a man celebrated as a celibate recluse, he had curious penchant for soft porn. Among the titles listed under 'romans' were books such as *Amours de Néron* (The Hague, 1695), *Les Amours de Sapho et de Phaeon* (Amsterdam, 1769) and *Les Amours fugitifs du cloître*. Even his collection of medical theses included a separate bundle entitled 'theses erotico-medicae'.³¹ He too was probably a mason,

27 L.W.B. Brockliss, 'Medical Teaching at the University of Paris, 1600–1720', *Annals of Science* 35 (1978): 227–9.

28 *Catalogue de la bibliothèque de feu M. Baron* (Paris, 1788), biographical notice, pp. iii, vii n, and viii. Books were generally bought unbound if they were new, so this was blank pages could be easily added when they were eventually sent to the binders.

29 Nos 257–8, 416, 484, 545, 573, 575, 614, 620

30 Nos 4965, 5006, 5028. The *Lettres philosophiques* had been banned by the Paris Parlement. The *contes* were called 'romans'. P. Feret, *La Faculté de théologie de Paris. Époque moderne*, 7 vols (Paris, 1900–12), vol. 6, pp. 237–48: censure of Marmontel.

31 *Catalogue de Baron*, nos 4949–50, 5039. I have not been able to find out anything about these three works

for he possessed a number of works loosely listed under the heading, 'Traité sur les francs-maçons et autres sociétés de plaisir'.³²

Of course, there is no reason to believe that these three medical libraries were typical, although their conservative image is sustained by the contents of two other even larger Paris medical libraries of Burette and Falconet, both members of the Académie royale des Inscriptions et Belles-lettres.³³ It will be necessary to go painstakingly through all the surviving catalogues before concluding that the typical French medical practitioner was only liminally attached to the anti-Christian Enlightenment. It must be borne in mind, too, that no printed book catalogue is likely to contain a complete record of an individual library. Not only were individual works kept by the family or sold off separately, but ephemera and forbidden books were frequently not listed at all. Censorship in eighteenth-century France could be fairly easily circumvented, but it was a legal reality that could not be safely ignored. Since most irreligious works had been banned by the state as well as the church, booksellers would think twice before openly advertising them for sale. Banned books were sold 'under the counter'. It is quite possible, then, that Morand and Baron, if not Geoffroy, owned much more dangerous works than the catalogues reveal.³⁴ There is no reason either why they might not have borrowed them from others who did. If few bibliophiles turned their libraries into public spaces, as Falconet seems to have done, most seem to have been ready to lend their books to friends, often for long periods of time. Eighteenth-century medical practitioners, even in the provinces, would have had access to other libraries besides their own. Friends may even have shared the expense of purchasing works of common interest. Books were still luxury items: a volume in duodecimo format (the most common kind) in the mid eighteenth century cost double the daily salary of a labourer. Medical practitioners were usually comfortably off but seldom rich: it would have made sense to pool resources.³⁵

32 *Catalogue de Baron*, nos. 5133–8: one of the works under this head was Swift's *L'Art du méditer sur la chaise percée*.

33 *Catalogue de la bibliothèque de feu M. Burette*, 2 vols (Paris, 1758); *Catalogue de la bibliothèque de feu M. Falconet*, 2 vols (Paris, 1763). Falconet seems to have been the more open to philosophical novelty. However, apart from Locke's *Essay* (no. 2848) and a surprising French translation of Hume's *Enquiry Concerning Human Understanding* (Amsterdam, 1758) (no. 2849), his acquaintance with unorthodox ideas came principally through works attacking subversive authors. He had a huge collection of Christian apologetics, including eleven works denouncing Spinoza (nos 2554–64). He did have two works by Toland, his *Adeisdaemon* (an attack on the deceptions of the religion of Ancient Rome) and his *Pantheisticon*, but also two critiques of the English deist, including Mosheim's 1722 *Vindiciae ... adversus Jo. Tolandi Nazarenum* (nos 1543–6). The Académie des Inscriptions had been founded in the reign of Louis XIV to foster the study of history and antiquities.

34 The best introduction to the underground book trade is Robert Darnton, *The Forbidden Best-Sellers of Pre-Revolutionary France* (London, 1996), chapters 1–2.

35 Marion, *Collections*, pp. 195–201; L.W.B. Brockliss, *Calvet's Web: Enlightenment and the Republic of Letters in Eighteenth-Century France* (Oxford, 2002), chapter 6, sect. 3; Brockliss and Jones, *Medical World*, chapter 8, sect. E. There were hardly any public libraries in France outside the capital before 1789 but there was a growing number of subscription libraries to which medical practitioners could belong.

However suggestive, therefore, the printed catalogues can only ever offer an indication of the philosophical and religious positions of individual medical practitioners. It might be thought that a more accurate listing would be given in the inventories of household possessions prepared by notaries on the decease of all but the poorest Frenchmen for purposes of valuing their estate. These, though, have even greater drawbacks, however much they have been the staple of *annaliste* historiography over the years.³⁶ Libraries were certainly catalogued by the notary's clerk but the listing was usually perfunctory. At worst books were simply listed under category – eighteen books on ancient history, for instance; at best, the author alone was recorded – ‘un livre de Rousseau’ – giving no indication whether the text in question was subversive or not. All that inventories really inform us about is the size of libraries.³⁷ In fact, the only source which could provide a fuller knowledge of an individual's book collection is a manuscript catalogue drawn up by the owner for his or her personal use, and in consequence not censored in any significant way. Unfortunately, these are rare. I have only ever discovered two personal catalogues compiled by French medical practitioners in 30 years of research.

The first, the work of the physician Pierre Baux of Nîmes (d. 1790), suggests we would be well advised to treat any conclusion drawn from the printed catalogues with due circumspection. Baux was the son of another Pierre (1679–1732), who was also a physician in the southern city, and was sent to study medicine at neighbouring Montpellier. He graduated in September 1728 and became a member of the Nîmes corporation of physicians a month later.³⁸ Like many well-to-do Nîmois, he was raised as a Huguenot, although in theory from 1685 Calvinism was outlawed in France and baptism in a Catholic church was compulsory. While at Montpellier he had begun a friendship with the future nosologist, François Boissier de Sauvages (1706–67) and together they had developed a passion for botany. Baux retained his enthusiasm for the rest of his life – he had a botanical garden attached to his town house –and quickly became a member of the local academy of arts and sciences.³⁹

36 For example, Daniel Roche, *The People of Paris: An Essay in Popular Culture in the Eighteenth Century*, Eng. trans. (Berkeley and Los Angeles, CA, 1987). The practice again reflected the influence of Roman law, and the testamentary habit of dividing property between the heirs.

37 The limits of the source for understanding reading habits is most fully evident in J. Quéniart, *Culture et société urbaines dans la France de l'Ouest au XVIIIe siècle* (Paris, 1978), a book which forgets that there was more than one best-selling author called Rousseau: Jean-Baptiste (1671–1741) was a highly regarded lyrical poet. M. Marion, *Recherches sur les bibliothèques privées à Paris au milieu du XVIIIe siècle. 1750–1759* (Paris, 1978), found that only one quarter of inventories listed books.

38 Bibliothèque Municipale Nîmes MS 425, ‘Registre des délibérations du corps des médecins de Nîmes de 1650 à 1792’, fols 58v–59r. Nîmes was one of the many cities in France where it was only possible for graduate physicians to practise their art if they belonged to the local guild: see Brockliss and Jones, *Medical World*, chapter 3, esp. p. 179 (map).

39 Baux and Sauvages maintained a correspondence for 30 years, 1727–57: see Bibliothèque municipale Nîmes MS 414. For France's provincial academies, see Daniel Roche, *Le Siècle des Lumières: Académies et académiciens provinciaux, 1680–1789*, 2 vols (Paris, 1978): vol. 2 provides bibliographical information specifically relating to Nîmes.

From the moment his father died, however, he also became an ardent collector of books.

Baux left two manuscript catalogues.⁴⁰ The earliest, drawn up in the late 1730s, was the catalogue of the library that he inherited from his father and that already contained books he had bought himself. It was a large library – several thousand volumes – and far less conventional than Geoffroy's catalogued a little earlier. Among the 112 titles listed under theology there was a solid bedrock of 36 Calvinist works and a further eight by Anglicans. But the latter included the natural theologies of Ray (1714), Clarke (1717) and the extremely popular William Derham (1732) and a 1731 French translation of Locke's *Reasonableness of Christianity*. The theology section also contained a Koran, in a French version of 1685, while another work of natural theology, the *Spectacle de la nature* of the abbé Pluche was hidden away in the sciences and arts section under 'marvels'.⁴¹ The library, too, was well provided with works of contemporary European literature, besides the customary collection of Greek, Latin and Renaissance authors. Under French epic poetry, Baux recorded not only Voltaire's *Henriade*, but French editions of Pope's *Rape of the Lock* (1728) and *Essay on Man* (1737).⁴² He also had a collection of Voltaire's dramas (the *philosophe's* chief claim to fame in the 1730s) and a copy of his *Lettres philosophiques* of 1734, as well as Montesquieu's *Lettres persanes*, Fontenelle's *Dialogue des morts* and *Entretiens sur la pluralité des deux mondes*, and the new steamy bestseller, Prévost's *Manon Lescaut*, published in 1731. In addition, he had a French translation of Swift's satirical *Tale of a Tub* (The Hague, 1732) which had originally appeared in 1704, and *Gulliver's Travels* (Paris, 1727), plus another satire in manuscript called the *Princesses malabares*.⁴³ In contrast, Baux's philosophy library was stale, for it contained mainly Cartesian works, enlivened only by Locke's *Essay* and his treatise on the *Education of Children*, both in Coste's translation. He did, however, under 'History: profane' have Montesquieu's *Considérations sur les causes de la grandeur des Romains* (1734), notable for its attack on the orthodox belief in the guiding hand of providence, and under 'History: diverse' two copies of Bayle's *Dictionnaire* (1697 and 1734) and his five-volume collected works (The Hague, 1737).⁴⁴

It is impossible to know how many of these subversive and critical works had been bought by Baux père, but their date of publication alone reveals that a number had been definitely acquired by Pierre II. Besides the Bayle, the Voltaire and the Pope, for instance, the son must also have bought Locke's *Essay*, for the edition he possessed was a 1736 Amsterdam publication. We know, too, that he was busy collecting 'interesting' literature in the 1730s. In 1733 his close Nîmois friend,

40 Both are organised slightly differently from the norm for books listed under 'belles-lettres' precede rather than succeed those included under 'sciences et arts'.

41 Bibliothèque municipale MS 450, 'Catalogue des livres de ma bibliothèque', no date. The entries are not numbered.

42 Bibliothèque municipale MS 450, 'Catalogue des livres de ma bibliothèque'.

43 This was dated Adrianople 1734. I have not been able to find out more about it.

44 Montesquieu's target was Bossuet's *Universal History* (1681), a favourite classroom text throughout the eighteenth century: see Brockliss, *Higher Education*, pp. 160–1.

the lawyer Jean-François Séguier, was whisked away to Paris as the secretary to the Verona antiquarian, Francesco-Scipione di Maffei, who had embarked on a European Grand Tour in the opposite direction.⁴⁵ Séguier and Baux had botanised together when young, and much of their surviving correspondence is about natural history. But Séguier was also Baux's conduit to the literary world of the capital, and he clearly acted as his buying agent. A letter of 22 April 1734 reveals that he had just crated up purchases worth 438 livres 2 sous (about £20).⁴⁶ It was Séguier who told Baux about the existence of the *Lettres philosophiques*, shortly after it appeared, as well as many other anecdotes about Voltaire with whom he dined on several occasions. Baux was even informed that Voltaire was ready to exchange letters with the young Huguenot.⁴⁷ Boissier de Sauvages, too, based in Montpellier where he held a faculty chair, found 'dangerous' books for his friend, or at least ones thought to be such. The *Tale of a Tub* was sent Baux as a present in February 1736. In the accompanying letter, his Montpellier colleague, who had perused the book for an hour, sang its praises as a 'must-read'. The author, he revealed, attacked both the Catholic and Calvinist religions, and seemed to prefer the Lutherans. 'This tale is infamous and full of blasphemies.' The Irish at Montpellier (Catholics, of course), had assured Sauvages that Swift passed for an atheist or a deist.⁴⁸

It seems likely, then, that the large majority of the risqué books in the catalogue had been purchased by Pierre II, all the more that a loose leaf at the beginning of the manuscript suggests that the purpose of the inventory was to prepare his father's library for sale. The leaf contains a list of 125 volumes which he intended to keep for himself or buy if a sale was completed, worth, he calculated, 858 livres 5 sous. These included the works on natural theology, Bayle's *Dictionnaire* and collected works, Swift's *Tale of a Tub*, Voltaire's *Lettres philosophiques*, and the *Princesses malabares*. The reasons for selling his father's books are unknown – perhaps he was getting married and needed money and space. But whatever the truth of the matter, it can be assumed that the books Baux wished to reserve for his own use reflected his philosophical and religious opinions in the 1730s. Clearly he had become impatient with the orthodox Calvinism in which he had been secretly raised. At the very least, he was now a non-confessional Christian with deistic leanings.

The contents of the second catalogue suggest that Baux became more radical as he grew older. This purports to have been compiled in 1736 but was added to until at least 1772. It is a catalogue of the books that Baux eventually kept from his father's library – far more than the 125 volumes listed on the separate leaf – and a list of the books that he acquired in later life. About 1770 the catalogue contained 1712 titles, although as a number of entries have been scored through, indicating perhaps

45 Séguier did not return to Nîmes until the late 1750s. A botanist and antiquarian with a European reputation, he eventually became secretary to the local academy: Gabriel Audisio and François Pugnière (eds), *Jean-François Séguier: Un Nîmois dans l'Europe des Lumières* (Aix-en-Provence, 2005).

46 Bibliothèque municipale MS 416, no. 14.

47 Bibliothèque municipale MS 416, nos 2, 8, 10, 13, 14, 15 : 17 Aug., 26 Nov. 1733, 10 Feb., 7 and 22 Apr., 17 May 1734.

48 Bibliothèque municipale MS 414, fol. 62: Sauvages to Baux, 3 Feb. 1736.

that they in their turn had been sold or given away, it is likely his library in old age was slightly smaller than this.⁴⁹ Baux's theology holdings immediately confirm the impression that he had moved away from the religion of his fathers as a young man. Not only did his personal library in later life contain no works of Calvinist theology but he had even jettisoned much of the Anglican natural theology he had inherited and possibly bought. Ray, Clarke, Derham's *Physico-Theology* and even Locke's *Reasonableness of Christianity* had been sold, although he had bought Derham's *Théologie astronomique* and William Wollaston's *Natural Religion* in a 1726 French translation. He had also kept the Bible in French and had actually bought a 1759 copy of the text with illustrations in the manner of Raphael.⁵⁰

More significantly, by the second half of the eighteenth century, Baux's philosophical collection had a new radical edge. Like the rest of the French Republic of Letters, he had come to accept that Descartes was passé and had invested in Voltaire's *Eléments de la philosophie de Newton* (1738), a sure sign that he lacked the mathematics to study the English philosopher in the original.⁵¹ Voltaire's work, however, was not just a Newton 'made easy', for the *philosophe* gave the cautious Englishman's ideas a radical twist in making attraction a property of matter not an unknown principle.⁵² Voltaire's Newton was a materialist and Baux seems to have become a materialist convert too. Among his other philosophical purchases was La Mettrie's *Histoire naturelle de l'âme* (1745), Diderot's *Pensées philosophiques* (1746) and Helvétius's *De l'esprit* (1758). Helvétius's text was the most renowned work of materialism and atheism to appear from a French pen in the Age of Enlightenment. It was also unremittingly tedious, which is testimony to Baux's interest in the subject.⁵³ For good measure, he further possessed Rousseau's *Discourse on Inequality* (Amsterdam, 1755), Maupertuis's *Vénus physique* (1745), which attacked the preformationist embryology of the mechanists and tried to explain the formation of the foetus using Newtonian attraction, and the Spinozist, Benoît de Maillet's *Telliamed* (1748), a proto-evolutionary account of how all life came from the sea.⁵⁴ Needless to say, Baux owned no Christian apologetic.

49 Bibliothèque municipale, MS 449.

50 Bibliothèque municipale, MS 449, pp. 2, 9–10, 23. It is unclear whether the 1759 text was just a collection of pictures or an illustrated Bible. When Wollaston's *Religion of Nature Delineated* appeared in 1724, it was a bestseller: Roy Porter, *Enlightenment: Britain and the Creation of the Modern World* (London, 2000), p. 112.

51 Bibliothèque municipale Nîmes MS 449, p. 141.

52 When Newton entered the French classroom after 1750, attraction was either attributed to a mechanical process not yet understood or explained as a divine miracle: God had not made attraction a property of matter, for matter was inert, but he perpetually intervened in his Creation to draw atoms towards one another: see Brockliss, *Higher Education*, pp. 369–70. For Voltaire's views, see Jean Ehrard, *L'Idée de nature en France à l'aube des Lumières* (Paris, 1970), chapter 3.

53 Bibliothèque municipale MS 449, p. 146, 154. All three works were cited without an author.

54 Bibliothèque municipale MS 449, pp. 158, 164. Initially, Maupertuis was no materialist and in his *Discours sur les astres* (1732) had developed the occasionalist explanation of attraction which in turn was dependent on the solution of the mind-body problem articulated

The Nîmois had also a number of important works of enlightenment listed under 'history', notably Montesquieu's *L'Esprit des lois* (Leiden, 1749), Voltaire's *Le Siècle de Louis XIV*, and – a late purchase – Raynal's extremely popular *Histoire des deux Indes* (Amsterdam, 1773–4), a lengthy polemic, partly ghost-written by Diderot, against slavery and the excesses of colonialism.⁵⁵ In addition, under 'apologetics', he not surprisingly had the pamphlets written by Voltaire and Rousseau in defence of the Toulouse Protestant, Calas, unjustly broken on the wheel in 1762 for murdering his son who had converted to Catholicism.⁵⁶ What Baux lacked, on the other hand, were copies of lighter enlightened literature. Although he had several editions of Voltaire's theatre, he did not own the *contes* or Rousseau's *Nouvelle Héloïse*. For light relief he seems to have fed on anti-clerical pornography, such as *La Religieuse en chemise ou Vénus dans le cloître* in a London 1740 edition and *Les Moines travestis* (Cologne, 1698).⁵⁷ Otherwise, his library suggests a cerebral and earnest *érudit*. He even had a copy of the *Encyclopédie*, not in Diderot's original folio version, which was extremely expensive, but in the 42-volume quarto edition published at Yverdon between 1772–5.⁵⁸

Pierre Baux's taste in books clearly reveals him to have been an *esprit fort*. Had it stood alone, it would seriously have undermined the utility of pursuing medical practitioners' philosophical and religious opinions through their printed library catalogues. As it is, its significance should not be exaggerated since the other manuscript catalogue I have unearthed points in the opposite direction. Esprit-Claude-François Calvet (1728–1810) was a physician at Avignon, some 30 miles from Nîmes. Like Baux, he came from a medical family, but in his case a dynasty of apothecaries. In his youth, he had been sent to the Jesuits' prestigious college at Lyons and had been probably intended to study law in Paris. Unfortunately, his father died when he was fifteen and he was forced to return to the family home in Avignon and train to be a doctor. He graduated at Avignon in 1749, then spent three years deepening his knowledge at Montpellier and Paris, where he also developed his nascent interest in antiquities and natural history. From 1752 until his death, however, he lived in his native town, earning his living as a physician and serving for many years as a medical professor at the local university, all the while gradually

by the Cartesian, Malebranche. Maillet's work had been circulating as an underground manuscript for many years: see Israel, *Radical Enlightenment*, p. 690.

55 Bibliothèque municipale Nîmes MS 449, p. 261, 308, 325.

56 Bibliothèque municipale Nîmes MS 449, p. 353. Voltaire's *Traité sur la tolérance* (1763) was the opening salvo in the campaign he launched thereafter against persecution of religious minorities. For the background to his polemic, see David Bien, *The Calas Affair: Persecution, Toleration and Heresy in Eighteenth-Century Toulouse* (Princeton, NJ, 1960).

57 Most of the pornography circulating in eighteenth-century France seems to have surfaced initially towards the end of the previous century: see Darnton, *Forbidden Books*, p. 86. Baux did possess Marmontel's *Bélisaire*: Bibliothèque municipale Nîmes MS 449, p. 343.

58 Bibliothèque municipale Nîmes MS 449, p. 343. This had been put together from the original by Felice and was considered less radical in tone: see Darnton, *The Business of the Enlightenment: A Publishing History of the Encyclopédie 1775–1800* (Cambridge, MA, 1979), pp. 19–21, 300–12.



Fig. 6.1. Portrait of Esprit-Claude-François Calvet (1728–1810), by Philippe Sauvan. Musée Calvet, Avignon.

building up a particularly fine collection of coins and fossils. On the eve of the Revolution, he was the leading antiquarian in the Midi and belonged to a number of academies. He was a corresponding member of the Paris Académie des Inscriptions et Belles-Lettres from as early as 1763 and the new Société royale de Médecine from 1776. Avignon had no academy of its own but through the good offices of one

of his former pupils, Claude-François Achard (1751–1809), he was made one of the permanent members of the Marseilles academy.⁵⁹

Calvet seems to have drawn up his library catalogue in autumn of 1791, shortly before he retreated to Marseilles from the political violence that had engulfed Avignon.⁶⁰ He initially listed 1382 titles under the usual heads, to which he appended a further 154 in the last 20 years of his life.⁶¹ His collection of 112 books under the rubric ‘theology’ (compared with 117 owned by Baux) reveal him to be a believer. In addition to numerous Bibles, he also had a collection of Biblical concordances, notably Dom Calmet’s 1730, *Dictionnaire historique, critique et chronologique, géographique et littéral*, in four volumes, which Voltaire had cleverly pillaged for his religious polemics.⁶² Everything suggests Calvet in contrast read the work in the spirit intended. His favourite spiritual text was Thomas à Kempis’s fifteenth-century *De imitatione Christi*, which preached a mix of hair-shirt Christianity and practical piety: Calvet owned four copies.⁶³ He also had Pascal’s *Pensées* in a 1683 Paris edition and French translations of St Augustine’s *Confessions* and the *Sermons* of St Bernard, reinforcing the impression of a rigorous moralist with a keen sense of divine judgement to come.⁶⁴ This was combined with a close interest in contemporary Christian apologetics. He possessed Fénelon’s *De l’existence de Dieu* and a variety of works defending the faith against incredulity, including the abbé Houtteville’s *La religion chrétienne prouvée par les faits* (1740), the Benedictine, Louis-Mayeul Chaudon’s acerbic *Dictionnaire anti-philosophique* (1769), one of the many ripostes to Voltaire’s *Dictionnaire*, and the inevitable *Déisme réfuté* (1768) and *Certitude des preuves du christianisme* (1767) of Bergier.⁶⁵ Calvet showed little sign either of having any sympathy with deviation from Catholic orthodoxy among those who claimed to believe in the divinity of Holy Writ. He had several works which pointed out to Protestants the errors of their ways and a whole sub-section devoted to ‘Erreurs en matières de religion’, which included Vossius on the Pelagians, the

59 Brockliss, *Calvet’s Web*, pp. 20–37.

60 Brockliss, *Calvet’s Web*, p. 283. Avignon had been papal territory but was annexed to France in the early years of the Revolution.

61 Bibliothèque municipale Avignon MS 2346, fols 277–368. Calvet left his library and collections to the city of Avignon and the majority of the books are today in the Bibliothèque municipale (Médiathèque Ceccano). Like Baron, he did not write in his books.

62 Brockliss, *Calvet’s Web*, no. 28. Calmet in his biographical entries on Old Testament characters conveniently distinguished between what was revealed of their history in Scripture and what was the stuff of legend.

63 Brockliss, *Calvet’s Web*, nos. 49–52: the last was a verse version.

64 Brockliss, *Calvet’s Web*, nos. 45, 47 and 67.

65 Brockliss, *Calvet’s Web*, nos. 55, 57, 60, 69–70. For Chaudon in particular, see Ch. Mervaud, *Le Dictionnaire philosophique*, pp. 148–52. The best general overview of Christian apologetics in the eighteenth century is Didier Masseau, *Les Ennemis des philosophes: L’antiphilosophie au temps des Lumières* (Paris, 2000). In later life, Calvet collected patristic apologetics.

Koran, Hobbes's *De cive* and Machiavelli's *Prince*.⁶⁶ The Jesuits would have been proud of their boy.

Calvet showed only a little more enthusiasm for philosophical novelties. He had Locke's *Essay* in the Coste translation but no other modern work on logic, metaphysics, ethics or politics, except Montesquieu's *L'Esprit des lois* (in his collected works, Amsterdam 1758).⁶⁷ He had, too, Newton's *Principia* in the Le Seur and Jacquier edition published at Cologne in 1760, along with the Newtonian Jesuit, Boscovich's 1763 *Theoria philosophiae naturalis*, which contained the radical idea that matter was composed of centres of force around non-extended points.⁶⁸ Evidently, unlike Baux, Calvet had mathematical pretensions. But this was the limit to the Avignonnais's interest in eighteenth-century natural philosophy. He only kept reasonably up to date and showed a degree of philosophical daring in natural history, the area of his specialist interest. Although he never owned any work by the proto-evolutionists, Erasmus Darwin and Lamarck, not even the latter's innocuous study of the Paris flora, his library did contain some of the earliest statements of radical cosmogeny – Woodward's *Essay on the Natural History of the Earth* (French translation, 1735), Maillet's *Telliamed* (1748), and 21 of the 22 volumes of Buffon's monumental *Histoire naturelle générale et particulière* (1749–89), including the highly subversive *Epoques de la nature* (1778).⁶⁹ He also possessed the geological essays of Elie Bertrand, which he had helped to see through the Avignon press in 1766. Bertrand, an important correspondent of Voltaire, was the long time pastor of the French Huguenot church at Bern. He seems to have been a believing Christian but had some interesting cosmological ideas based on the fossil record, insisting that the history of life on earth was a series of separate divine creations and extinctions.⁷⁰

Calvet's literary interests were even more conservative. He had an exceptionally rich collection of classical literature and a reasonable cross-section of Italian Renaissance and French seventeenth-century texts, but he had very few works of the eighteenth century. He owned Pope's *Essay*, the quietest Fénelon's novel, *Télémaque*, about the education of a philosopher-prince, the verse of J.-B. Rousseau, the conservative tragedies of Crébillon père, and Marmontel's ubiquitous *Bélisaire*,

66 Bibliothèque municipale Avignon MS 2346, nos 83, 85–6, 88. Vossius was a seventeenth-century Dutch Protestant. Calvet also had the abbé Pluquet's *Dictionnaire des hérésies* (1762).

67 Bibliothèque municipale Avignon MS 2346, nos 97, 153: Montesquieu was catalogued under jurisprudence.

68 Bibliothèque municipale Avignon MS 2346, nos 130, 132. The Newton had originally been published in Geneva, 1739–42.

69 Bibliothèque municipale Avignon MS 2346, nos 181, 192–4. Calvet's copy of Buffon is now in the Avignon Musée Requien. For developments in cosmogeny in the eighteenth century, see C.C. Gillispie, *Genesis and Geology: The Impact of Scientific Discoveries upon Religious Belief in the Decades before Darwin* (New York, 1959); Martin Rudwick, *The Meaning of Fossils: Episodes in the Meaning of Palaeontology*, 2nd ed. (New York, 1976), chapters 1–2; Rhoda Rappaport, 'The Earth Sciences', in Roy Porter (ed.), *The Cambridge History of Science*, vol. 4, *Eighteenth-Century Science* (Cambridge, 2003), chapter 18.

70 Brockliss, *Calvet's Web*, pp. 275, 277, 314–5, 324–5, 394n. Bertrand began corresponding with Voltaire in 1753.

but he had nothing by Voltaire, not even his *Henriade* or theatre.⁷¹ In consequence, Calvet's only direct acquaintance with materialist thought came through Lucretius's *De rerum natura*, considered by Peter Gay as one of the fundamental underpinnings of the *philosophes*' anti-Christian thought. Curiously, the Avignon physician had three copies of the work, including the extremely erudite 1563 edition by the Paris humanist, Denis Lambinus. On the other hand, he possessed Bougainville's translation of Cardinal Polignac's early eighteenth-century *Anti-Lucrèce*.⁷² Not surprisingly, his exposure to contemporary pornography was limited to two possibly scurrilous works: *La Vie de Dlle Dion*, which presumably recounted the adventures of the cross-dressing chevalier d'Eon, and the *Lettres de Mme Du Barry*, which was doubtless one of the many attacks on Louis XV's low-born mistress in the 1770s.⁷³ His holdings in modern enlightened history were scarcely more inspiring. Although again Calvet owned an enviable collection of classical and modern histories, which supported his antiquarian interests, he did not invest greatly in the famous works of his own day, despite living till 1810. He had no Voltaire, only Hume's pro-Stuart *History of England*, in Prévost's 1765 translation, and a 1780 edition of Raynal's *Histoire des Indes*.⁷⁴

Calvet's 1791 catalogue clearly reveals a physician with even more orthodox religious and philosophical tastes than his Parisian colleague, Baron, whose library was put up for auction four years before. He was an austere orthodox Catholic with at most a dislike of religious persecution. In his case, too, the impression is largely confirmed by the evidence from his personal papers. Although he became understandably more religious in old age after being imprisoned during the Terror, he seems to have been a church-goer even in his prime, albeit one who had little truck with 'baroque' piety.⁷⁵ He seems to have had nothing but contempt for Voltaire. '[Voltaire] who would have done better to limit himself to poetry, did not often worry about sacrificing the truth of an evidentially supported fact in order to sustain a piquant account of a spicy tale or in the interest of a fiction.'⁷⁶ Conversely, rather surprisingly, he had a soft spot for Jean-Jacques, so much so that at one point in 1768, he was willing to put Rousseau up in Avignon – though, true to form, the

71 Bibliothèque municipale Avignon MS 2346, nos 677, 679–80, 682, 716–17, 720. He also had two works attacking the Fénelon novel (nos 718–19) and Fénelon's *Dialogue des morts*. Calvet owned no Molière, Corneille or Rabelais.

72 Bibliothèque municipale Avignon MS 2346, nos. 614–16, 667. Peter Gay, *The Enlightenment: An Interpretation*, 2 vols (London, 1966–70), vol. 1, esp. pp. 98–104.

73 BM Avignon MS 2346, no. 822. Gary Kates, *Monsieur d'Eon is a Woman. A Tale of Political Intrigue and Sexual Masquerade* (1995). Mme Du Barry was mercilessly savaged after Louis XV's death: see Darnton, *Forbidden Best-Sellers*, chapter 5.

74 BM Avignon MS 2346, fol. 347v, unnumbered (bought after 1781); no. 1084.

75 Brockliss, *Calvet's Web*, esp. pp. 51–8. Calvet wrote a staggering number of wills – the first in 1771 – which allow his attachment to Catholic rituals to be studied in detail. His four wills before the Terror make no mention of masses to be said for his soul.

76 BM Avignon MS 2348, fol. 404v: from a paper by Calvet entitled 'Considérations sur les sciences'.

misanthrope never arrived.⁷⁷ It could never be guessed, too, from his library catalogue that Calvet was a mason. In fact, he was one of the founding fathers of the short-lived Saint-Jean-de-Jérusalem lodge, which opened in 1749 when Calvet was fresh from medical school and not yet 21. On the eve of the French Revolution he was also closely connected with a secret religious society, the *illuminés* of Avignon, which began to gather in the city under the leadership of the ex-Benedictine, A.J. Pernety, in 1785.⁷⁸ This, though, only confirmed his Christian allegiance, not that he was a closet unbeliever. The *illuminés* were non-denominational millenarians, who emphasised the truth of Scripture, worshipped the mystery of the Eucharist, treated the Virgin Mary as a fourth member of the Godhead, and lived their life according to communication from their guardian angels. They were not materialist freethinkers.⁷⁹

More importantly in the present context, Calvet's personal manuscript inspires confidence in using printed catalogues as a method of gauging the commitment of the upper echelons of the pre-Revolutionary medical community in the anti-Christian enlightenment. It may possibly have been the case that the five Parisian libraries studied to date belonged to *esprits forts*, whose real religious allegiance was hidden by censorship. But it seems much more plausible to assume that they provide a good indication of their owners' beliefs. Calvet, marked down by the Jesuits while at College as a possible recruit, may have peculiarly unwilling to listen to the siren song of the materialists, but everything about his early life and later career suggests that he was a typical eighteenth-century elite physician, albeit a provincial. Physician to a clutch of local aristocrats and ecclesiastics, his clients would have only helped to shape his beliefs.⁸⁰ Baux, on the other hand, is unlikely to have been representative simply because he was a Huguenot. Brought up in an underground, subversive movement, he was accustomed from childhood to living on the boundaries of respectability. Numerous Huguenots, too, in the second half of the century slipped into unbelief, while the movement as a whole welcomed the Revolution with open arms. What is needed now, therefore, is a much fuller study of the surviving printed catalogues. Common sense suggests this will confirm that the elite medical practitioner in pre-Revolutionary France was an orthodox Catholic, relatively tolerant of other confessions and ready to see the laws against Calvinists relaxed. Still, there is a need to put real flesh on this assumption by getting a better idea of what was considered absolutely essential reading for the upmarket Christian doctor in the Age of Enlightenment.

Yet, if, as seems likely to be the case, medical practitioners on the eve of the French Revolution were not part of the anti-Christian vanguard, it would be wrong,

77 Brockliss, *Calvet's Web*, pp. 394–5. Perhaps Calvet understood that Rousseau continued to honour Christ as a moral leader and believed in a Providentialist God.

78 Brockliss, *Calvet's Web*, pp. 52–3.

79 Auguste Viatte, *Les Sources occultes du romantisme. Illuminisme. Théosophie. 1770–1820*, 2 vols (Paris, 1965), vol. 1, pp. 89–103; Joanny Bicaud, *Les Illuminés d'Avignon. Etude sur Dom Pernety et son groupe* (Paris, 1927); Micheline Meillassoux-Le Cerf, *Dom Pernety et les illuminés d'Avignon* (Milan, 1992). The sect was excommunicated by the pope.

80 Brockliss, *Calvet's Web*, pp. 171–9.

as a result, to place the French medical community on the side of anti-Enlightenment. For many years in Britain and the United States, it has been customary to associate the progressive and optimistic values of Enlightenment with religious scepticism or outright atheism. This association needs unpacking. Calvet was a convinced Christian, but he embraced wholeheartedly the possibility of creating a better moral and material world. His labours as a physician and his intellectual interest in natural history and antiquities had similar ends: 'improvement' through a clearer understanding of man and nature and the dispelling of superstition and ignorance.⁸¹ His close circle of correspondents were equally committed 'improvers' and, in the main, just as religiously conservative: only the Parisian comte de Caylus and the abbé de Sade, uncle of the infamous marquis, were obvious *mondains*.⁸² There was then in France a Catholic Christian enlightenment in the eighteenth century which embraced noblemen, lawyers and clerics as well as medical practitioners.

This Catholic enlightenment was this-worldly and humanist. Rejecting the Augustinian view that had dominated the Christian Church since the fifth century which stressed human depravity and that life was a vale of tears, its adepts argued that human beings had a capacity and a duty to change the world that they had been born into. They were thus very different from seventeenth-century Counter-Reformation Catholics and clearly distinguishable from contemporary Jansenists, even if they were often austere stoics. Obviously, they would have agreed with the sentiment with which Voltaire ended *Candide* – that it was necessary to go and cultivate the garden – although few would have read the *conte*. They were decidedly not Voltaireans, but they were many in number. Indeed, it is more logical to see the anti-Christian *philosophes* as a sub-group of this larger humanist community. This is not the place to explore the intellectual pedigree of enlightened French Catholics. Suffice it to say that their position cannot be unconnected with the Jesuits' dominance of French collegiate education in the first half of the eighteenth century, for the Jesuits had long been associated by critics, especially Jansenists, with a dubious anthropology which placed too great an emphasis on human potential.⁸³ The Jesuits, of course, were kicked out of France in 1762–3 for being an illegal foreign organisation which promoted tyrannicide, the victims of a campaign orchestrated by Jansenists in the Paris Parlement.⁸⁴ Calvet and his friends (some of whom were ex-Jesuits) took the blow hard. The promotion of a Catholic enlightenment, it could be said, was their revenge. And it was inevitable that medical practitioners would play an important

81 Brockliss, *Calvet's Web*, chapters 3–5 *passim*. Calvet was a neo-Hippocratic who advocated letting nature dominate the healing process.

82 Brockliss, *Calvet's Web*, pp. 294–9: a description of their libraries. Some of his correspondents, including the Bishop of Agde, Sandricourt, did own the *Encyclopédie*, a testament to their greater wealth. The Sades were an Avignon family, although the abbé had spent a long time in the capital.

83 For an introduction to Jesuit humanism, see Robert R. Palmer, *Catholics and Unbelievers in Eighteenth-Century France*, revised ed. (Princeton, NJ, 1967).

84 Dale Van Kley, *The Jansenists and the Expulsion of the Jesuits from France* (New Haven, CT, 1975). The Jansenists got their opportunity when the Order foolishly appealed to the court a decision from a lower tribunal that the Society in France must pay the colossal debts of a Jesuit in the French West Indies trading on his own account.

role in the movement. Of all the professions, medicine could evidently claim to be potentially the most useful in creating a better world in what was still a pre-industrial age.⁸⁵

85 For a more detailed examination of the French Christian Enlightenment, see Brockliss, *Calvet's Web*, conclusion. It has long been recognised that medicine was a peculiarly privileged science for Diderot and other *philosophes*: see Peter Gay, 'The Enlightenment as Medicine and Cure', in W.H. Barber *et al.* (eds), *The Age of Enlightenment: Studies Presented to Theodore Besterman* (London, 1986), pp. 375–86.

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Moral Lessons of Perfection: A Comparison of Mennonite and Calvinist Motives in the Anatomical Atlases of Bidloo and Albinus¹

Rina Knoeff

Looking at early modern Dutch anatomical atlases and textbooks, one cannot fail to notice that almost all anatomists were professing to aim at perfection. Historians of science and medicine have taken up this theme and they have argued that ‘perfection’, together with the theme of *vanitas*, is crucial in understanding early modern anatomical illustrations.² Yet, the representation of perfection works out differently for each author. Whether we see depictions of weeping skeletons, ‘happy’ musclemen, ‘babes in bottles’ or cut-up bodies, the anatomists who created them all claimed to have represented perfection. What, I ask in this paper, is the status of the concept of perfection in early modern anatomy?

So far, historians have made us believe that the concept of perfection is what philosophers would call a ‘thick’ concept – that is, a concept, which is rich in content

1 For helpful comments on an earlier version of this paper I want to thank Andrew Cunningham, Frank Huisman, Colin Jones and Catrien Santing.

2 Historians have mainly pointed at two connected aspects of the moral lesson suggested by anatomical illustrations. First, they have argued that the perfect structure of the human body reveals the craftsmanship of God and therefore calls for endless admiration for the Creator. Secondly, they have argued that the widespread use of the Greek proverb *gnōthi seauton* (‘know thyself’) and the depiction of vanity symbols was to warn the beholder of approaching death and the divine judgement to come. For a discussion of these two aspects of Dutch moral anatomy see: William S. Heckscher, *Rembrandt’s Anatomy of Dr. Nicolaas Tulp. An Iconological Study* (New York, 1958); William Schupbach, ‘The Paradox of Rembrandt’s “Anatomy of Dr. Tulp”’, *Medical History* (1982) Supplement No. 2; Bryan S. Turner, *Medical Knowledge and Social Power* (London, 1987); Brian S. Turner, ‘The Anatomy Lesson: A Note on the Merton Thesis’, *The Sociological Review* 38 (1990): 1–18; Harold J. Cook, ‘The Cutting Edge of a Revolution? Medicine and Natural History near the Shores of the North Sea’, in J.V. Field and Frank A.J.L. James (eds), *Renaissance and Revolution. Humanists, Scholars, Craftsmen and Natural Philosophers in Early Modern Europe* (Cambridge, 1993), pp. 45–61; Jan C.C. Rupp, ‘Matters of Life and Death: The Social and Cultural Conditions of the Rise of Anatomical Theatres, with Special Reference to Seventeenth Century Holland’, *History of Science* 28 (1990): 263–78; Jan C.C. Rupp, ‘Michel Foucault, Body Politics and the Rise and Expansion of Modern Anatomy’, *Journal of Historical Sociology* 5 (1992): 31–60.

and singles out a unitary group of items.³ Given the great diversity in anatomical depictions, however, this cannot be the case here. Instead, the concept of perfection is what could be called a ‘thin’ concept – that is, a concept, which denotes an area of dispute, rather than the outcome of a debate or a solution to a particular problem. The philosopher Julia Annas has introduced this description to argue that in ancient ethics, the concept of happiness is ‘an obvious, but thin, specification of the final good’, which means that, although practically all the ancient philosophers considered happiness as an unquestionable goal, they worked it out into very different concrete ideas of what happiness should consist in and, moreover, they rejected contending views on the matter.⁴ By the same token for early modern anatomy, I argue, the concept of perfection in anatomical illustrations was contended ground, rather than a unified unquestionable ideal. I do not intend to look at perfection in terms of proportions, perspectives and other aesthetic conventions. Instead I am much more concerned with cultural, and in this case religious, contexts determining particular ideals of perfection. In order to account for the great diversity in depictions of perfection in anatomical atlases, we shall have to resort to more specific convictions and ideas entertained by the anatomists themselves.⁵

Central to the article are the anatomical atlases of Govard Bidloo (1649–1713) and Bernard Siegfried Albinus (1697–1770). Both atlases were published in the Dutch Republic within a time span of 50 years, and both anatomists claimed to have portrayed perfection. Yet, the illustrations could not be more different. While Bidloo mostly depicted dead and dissected cadavers, Albinus attempted to portray his ‘living’ skeletons and musclemen in a way as pleasing as possible. A comparison between the two atlases ideally shows how the ‘perfect body’ was a construction of particular circumstances.

3 See for instance the work of Daston and Galison – they describe the early modern ideal of perfection in anatomical atlases as a unitary aim, valid for all anatomies, without critically evaluating the concept of perfection itself. See: Peter Galison, ‘Judgement against Objectivity’, in Caroline A. Jones and Peter Galison (eds), *Picturing Science, Producing Art* (New York and London, 1998), pp. 327–59; Lorraine Daston and Peter Galison, ‘The Image of Objectivity’, *Representations* 40 (1992): 81–128.

4 Julia Annas, *The Morality of Happiness* (Oxford, 1993), p. 46.

5 The idea that early modern ‘scientific’ depictions should be viewed in the context of historical-social frameworks has been put forward by Martin Kemp in his ‘“The Mark of Truth”: Looking and Learning in Some Anatomical Illustrations from the Renaissance and Eighteenth Century’, in W.F. Bynum and Roy Porter (eds), *Medicine and the Five Senses* (Cambridge, 1993), pp. 85–121. However, Kemp mainly looks at the illustrations from an art historical perspective. See also Martin Kemp, ‘Temples of the Body and Temples of the Cosmos: Vision and Visualization in the Vesalian and Copernican Revolutions’, in Brian S. Baigrie (ed.), *Picturing Knowledge. Historical and Philosophical Problems concerning the Use of Art in Science* (Toronto, 1996), pp. 40–85; Sachiko Kusakawa, ‘Illustrating Nature’, in Nicholas Jardine and Marina Frasca-Spada, *Books and the Sciences in History* (Cambridge, 2000), pp. 90–113.

Govard Bidloo's *Anatomia Humani Corporis*

In 1685, in the preface to his anatomical atlas, Govard Bidloo wrote: 'I have worked to pass on to our descendants, *something perfect, without ornamental and misleading representations* in the illustrations; because none of the anatomists, as far as I know, has ever drawn and published a *representation after life* ['naer het leven'] of all the parts of the human body'.⁶ At the time the anatomical plates of Eustachius and Berrettini had not yet been published, so Bidloo could justifiably claim to have done something new.⁷ He not only showed the bones, muscles and nerves, but also the inner organs as well as microscopic representations of tissues and glands.

Bidloo's atlas was also novel in that he offered a new way of representation. Often anatomists had depicted skeletons and musclemen in lifelike positions set in classical landscapes mostly conveying a *vanitas* message. Well known is, for instance, the Vesalian skeleton contemplating a human skull, which of course was a traditional metaphor of mortality. In Bidloo's atlas only few skeletons are portrayed in classical landscapes – one skeleton appears from a grave and another skeleton holds an hourglass. Most illustrations, however, depict dead and dissected cadavers. It has been said that for this reason, Bidloo's anatomical representations entered a new era, which was much more realistic, devoid of metaphor and morality.⁸

Yet, I argue that Bidloo's specific idea of perfection and his aversion to beautifying decorations show particularly well that Bidloo's work was as much coloured by his religious background as the work of his predecessors. Bidloo's stance in these matters can best be observed in his controversy with the well-known Dutch anatomist Frederik Ruysch.⁹ Bidloo fiercely criticised Ruysch's anatomical

6 Govard Bidloo, *Anatomia humani corporis, centum & quinque tabulis, per artificiosiss. G. de Lairese ad vivum delineatis* (Amsterdam, 1685). The Latin original contains more plates than the Dutch translation, which I have used for the quotations. See Govard Bidloo, *Ontleding des menschelyken lichaams, gedaan en beschreven door Govard Bidloo, Geneesheer en Hoogvoorlezer in de ontleding- en heilkunst binnen 's Gravenhage; en naderhand hoogleraar in de ontleed- en heilkunst in the Academie tot Leyden. Uitgebeeldt naar het leven, in honderd en vyf afbeeldingen, door de Heer Gerard de Lairese* (Utrecht, 1690), Preface. My italics and translation.

7 K.B. Roberts and J.D.W. Tomlinson, 'Anatomy in the Netherlands 1600–1800', in K.B. Roberts, J.D.W. Tomlinson (eds), *The Fabric of the Body. European Traditions of Anatomical Illustration* (Oxford, 1992), pp. 287–346; see p. 312.

8 Roberts and Tomlinson, 'Anatomy in the Netherlands 1600–1800', p. 312. Jan Rupp has argued that although Bidloo in the introduction described anatomy in a moral context, the atlas itself is scientific. See Jan C.C. Rupp, 'Het Theatrum anatomicum: Publiekscommunicatief fossiel of "archetype"', *Gewina* 25 (2002): 191–209. In particular on internet presentations of Bidloo's atlas, his work has been praised as the 'turn to anatomical realism'. See for instance http://www.nlm.nih.gov/exhibition/dreamanatomy/da_real_ugly.html, last accessed 6 April 2007.

9 The controversy is extensively described in a recent biography of Ruysch. See Luuc Kooijmans, *De Doodskunstenaar: De Anatomische lessen van Frederik Ruysch* (Amsterdam, 2004), pp. 223–236. For Ruysch see also: Julie V. Hansen, 'Resurrecting Death: Anatomical Art in the Cabinet of Dr. Frederik Ruysch', *Art Bulletin* 78 (1996): 663–679; Julie V. Hansen, *Galleries of Life and Death: The Anatomy Lesson in Dutch Art, 1603–1777*, unpublished PhD

cabinet for unnecessarily decorating dead bodies with knick-knacks such as glass eyes, beads, ribbons and lace garments.¹⁰ In opposition to Ruysch, who tried to make his dead bodies as much alive as possible, Bidloo emphasised the deadness of the dissected body. His anatomical illustrations include ropes, pins, knives, blocks and even books supporting body parts, not only allowing the viewer a good view of the inner tissues and organs of the body, but also emphasising the finality of death. Most notably, on plate 52, a fly creeping across the dissected abdomen, illustrates the putrefaction of the corpse and thereby the repulsive reality of the dissection room.

Clearly, Bidloo's idea of perfection was totally different from Ruysch's view on the matter. Moreover, their different views on perfection conveyed different moral lessons. According to Julie Hansen, Ruysch's work was directed at revealing and imitating the craftsmanship of the Creator. In particular, Ruysch's collection of tiny bodies of infants aims at showing the perfection of the Creation.

Like the small, beautifully crafted glassware and ceramic pieces that signified luxury in a *vanitas* painting, the little bodies were more perfect and untouched in their unlivd (and thereby more virtuous) state. Moreover, the tragic component of their innocence and unfulfilled lives gave them added poignancy as objects of contemplation: as such, their injected and decorated bodies were transformed into a new kind of still life.¹¹

Fontenelle, secretary of the Académie royale des sciences, wrote about Ruysch's work that 'the bodies which he injected preserved the tone, the lustre, and the freshness of youth. His mummies were a revelation of life' and that 'man seemed to continue to live in the one, and to continue to die in the other'.¹² In other words, Ruysch 'strove for a wondrous form of perfected nature in defiance of death'.¹³

Bidloo, on the contrary, did not share Ruysch's enthusiasm for preserving 'babes in bottles'.¹⁴ He argued that Ruysch's idea of perfection was misleading and that his careful and artistic constructions would soon perish. In an ironical way, Bidloo remarked that Ruysch injected his preparations with a simple balsamic spirit, which

dissertation, Stanford University, 1996; Pieter Scheltema, *Het Leven van Frederik Ruysch* (Sliedrecht, 1886).

10 Govard Bidloo, *Godefridi Bidloo vindiciae quarundam delineationum anatomicarum, contra ineptas animadversiones Fred: Ruyschii, praelect: anat. chirurg: & botan.* (Leiden, 1697). See also Frederik Ruysch, 'Antwoort van Frederik Ruysch op het boekje van Govard Bidloo het welk hy den naam van VERDEDIGING gegeven heeft', in Frederik Ruysch, *Alle de genees- en heilkundige werken van Frederik Ruysch, in zyn ed. leven vermaard geneesheer en hoog-leeraar in d'ontleed- en kruidkunde tot Amsterdam; als mede lid de Keyserlyke Londense en Parysse genootschappen. Meerendeels in 't Nederduyts vertaalt, door Ysbrand Gysbert Arlebout* (Amsterdam, 1744), pp. 439 and following.

11 Hansen, 'Resurrecting Death', p. 672. Hansen has sophisticated the argument of Luyendijk-Elshout and others who mainly spoke about the *vanitas* meaning of Ruysch's work. See Antonie Luyendijk-Elshout, 'Death Enlightened: A Study of Frederik Ruysch', *Journal of the American Medical Association* (1970): 212–17.

12 Fontenelle in Hansen, 'Resurrecting Death', p. 673.

13 Fontenelle in Hansen, 'Resurrecting Death', p. 673.

14 The expression 'babes in bottles' is from Martin Kemp, *Visualizations: The Nature Book of Art and Science* (Oxford, 2000), pp. 24–5.

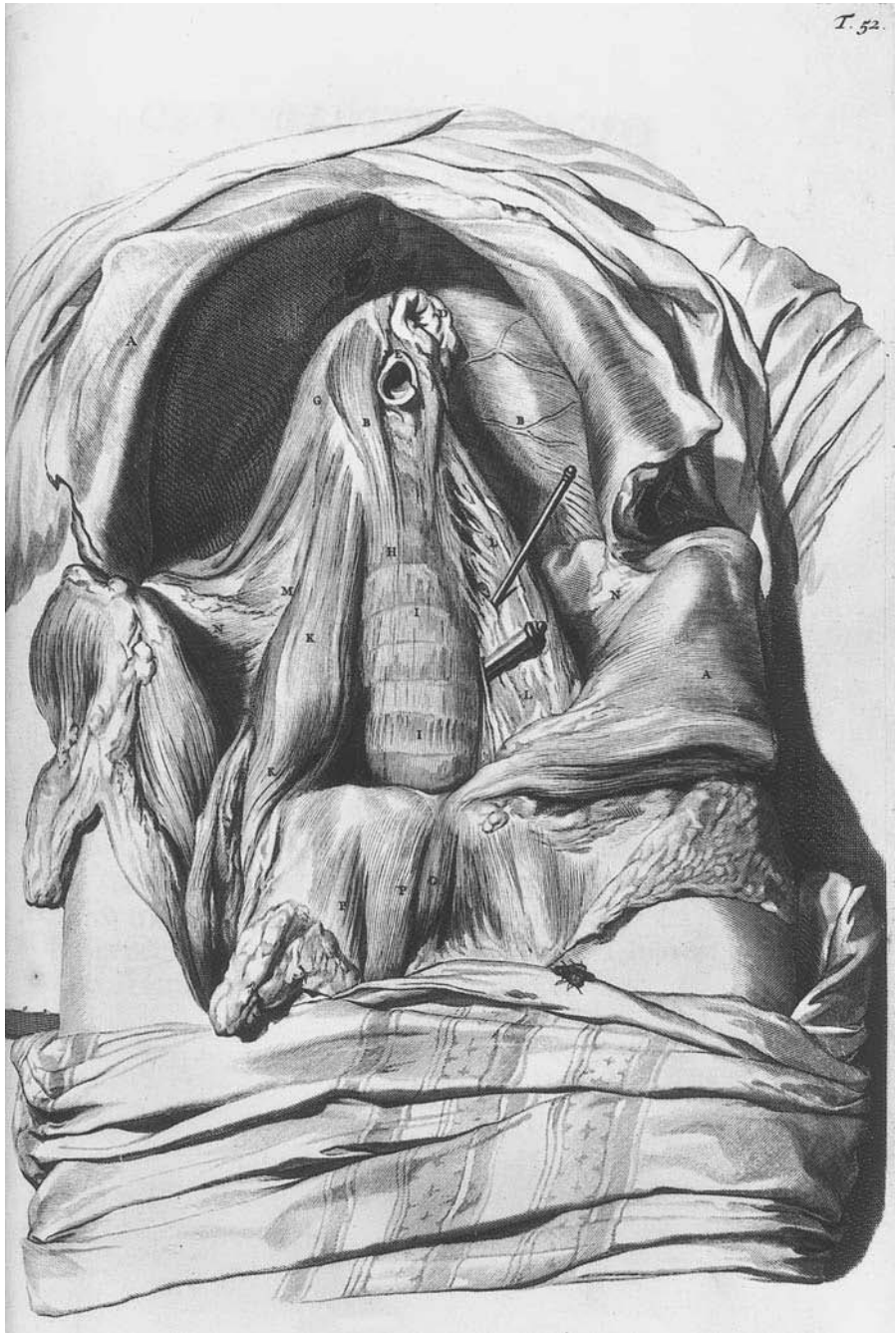


Fig. 7.1. Govard Bidloo, *Anatomia humani corporis*, 1685, plate 52. Courtesy of Groningen University Library.

meant that his ‘pretty specimen, with the adornments characteristic of a prostitute’, would soon decay.¹⁵ Bidloo argued that man himself is a work of art, created by God, and that whatever is constructed by man – chemical preparations and mechanical constructions – can never equal the design of the divine Creator.¹⁶ According to Bidloo, Ruysch’s project of artificially bringing dead bodies to life was false and misleading. Only the dissected body itself, he stated, was suited to showing the wisdom of God.¹⁷

How, we have to ask, can we account for Bidloo’s specific ideal of perfection? I suggest that Bidloo’s religious background provides important explanatory material. Bidloo, as well as his brother Lambert, has been described as a representative of ‘a group of erudite, wealthy and culture-loving Mennonites’.¹⁸ According to Willem Vasbinder, Bidloo was deeply religious and he argued that his religious upbringing was influential throughout his life.¹⁹ Unfortunately Vasbinder fails to work out his statement. I nevertheless take up Vasbinder’s remark and in this paper I want to further his argument. Before looking at the Mennonite inspiration of Bidloo’s ideas, however, it is first necessary to briefly explain what the Mennonite movement was about.

After the excesses of early Anabaptism – among them polygamy and running naked through the city of Amsterdam – had come to an end with the hanging of Jan van Leiden, Bernd Knipperdollink and Bernd Krechting in Münster in 1536, Menno Simons (1496–1561) stabilised Anabaptist feelings in the Republic. He emphasised that believers should lead a way of life as he understood Christ to have lived and taught it. Of women, he ordered in particular, that they should avoid ‘all unnecessary adornment and display, making or desiring no other clothes than those, which are necessary’.²⁰ Thus, Bidloo’s critique on Ruysch was not alien to the Mennonite dislike of superfluous decoration. Particularly in the seventeenth and eighteenth centuries, the Mennonites, following a general trend in the confessional blocks in Dutch society, emphasised social and moral discipline. They ‘adhered to stringent moral codes and patterns of behaviour, eschewing taverns as well as wine and spirits, and discouraging laughter – endeavouring always to look stern’.²¹

Of all edifying literature, the Dutch Mennonites best loved tales about the horrible deaths of the martyrs. According to the German church historian Ethelbert Stauffer, the ‘theology of martyrdom’ was the essence of Mennonite theology – a true Christian has to suffer in this world in preparation for the next. In that

15 Bidloo in Willem Vasbinder, *Govard Bidloo en William Cowper*, PhD dissertation, Utrecht, 1948, p. 77.

16 Bidloo, *Ontleding*, preface.

17 Bidloo, *Ontleding*, preface.

18 Piet Visser, *Van Offer tot Opera. Doopsgezinden en kunst in de zeventiende eeuw. Tentoonstelling ter herdenking van de 350 jaar geleden tot stand gekomen vereniging van Vlaamse, Friese en Hoogduitse Doopsgezinden te Amsterdam* (Amsterdam, 1989), p. 44.

19 Vasbinder, *Bidloo en Cowper*, pp. 4 and 8.

20 Menno Simons in Jonathan Israel, *The Dutch Republic. Its Rise, Greatness and Fall, 1477–1806* (Oxford, 1995), p. 92. See also *The Complete Writings of Menno Simons*, ed. and trans. by J.Ch. Wenger (Scotsdale, PA, 1956), p. 381.

21 Israel, *The Dutch Republic*, p. 690.

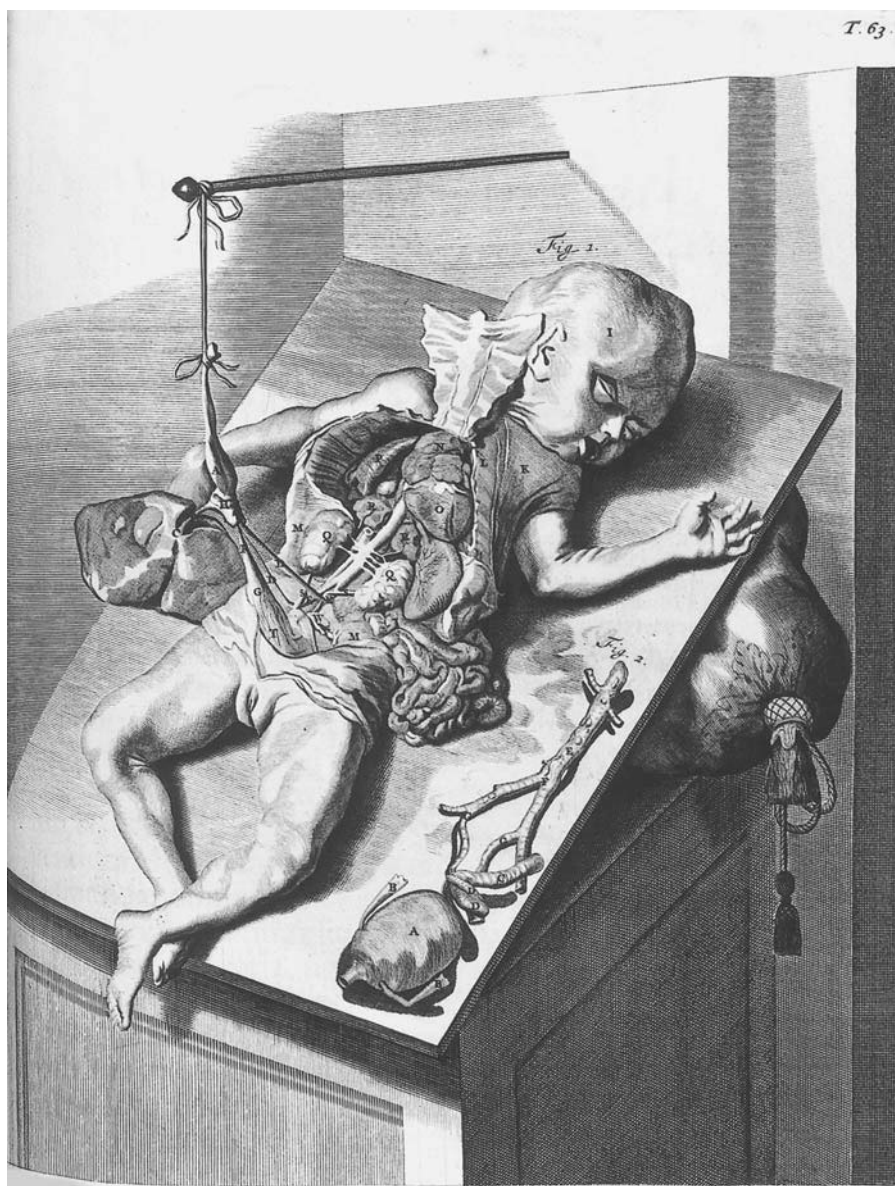


Fig. 7.2. Govard Bidloo, *Anatomia humani corporis*, 1685, plate 63. Courtesy of Groningen University Library.

sense, the history of the suffering church teaches man to carry his cross in faith, patience and resignation (*Gelassenheit*). Menno Simons even mentioned suffering as a sign of election. Although for the Mennonites the path to salvation was more important than the goal itself, they still believed that the blood witnesses of Christ

would inherit the Kingdom of God, from where they would look down on their prosecutors.²²

Particularly in the seventeenth century martyr stories became increasingly popular. The stories were compiled in books and appeared in numerous editions. Moreover, believers were always on the lookout for new martyrs and they traveled far and wide to discover new stories. At the same time the aim of the martyr literature changed. Before 1600 the stories were mainly meant for teaching and strengthening of faith. In the seventeenth century, however, the stories were seen as mirrors reflecting the Mennonite life and doctrine. Especially because many Mennonites were faring very well economically – most of them belonged to the wealthy and higher classes in society – the stories had to confront the believer with the harsh circumstances of the past. The *Martyr's Mirror*, it was believed, would sober up the believer and get him to repent.²³ Apparently, this was highly necessary because according to Hans Ries, one of the Mennonite leaders, 'the goods have increased, but the soul has become impoverished; clothes have become precious, but the internal adornments have perished'.²⁴

One of the most popular martyr books was Tieleman Jansz van Braght's 'Bloody Theatre or Martyr's Mirror of the Defenseless Christians' (1660).²⁵ It was widely read and quoted, it appeared in many editions and it was translated into several languages. Van Braght's preoccupation with bodily suffering is clear right from the start of his 'Martyrs Mirror.' Directly after the opening words, Van Braght wrote:

But most beloved, do not expect that we shall bring you into Graecian theatres, to gaze on merry comedies or gay performances. Here shall not be opened unto you the pleasant arbors and pleasure gardens of Atlas, Adonis or Semiramis, ... yet far be it from us to conduct you to places of sadness, surely not to such as can, in verity, be called places of sadness. True enough, *we shall lead you into dark valleys, even into the valleys of death* (Ps. 23, 4), *where nothing will be seen, but dry bones, skulls, and frightful skeletons of those who have been slain*; these beheaded, those drawn, others strangled at the stake,

22 Ethelbert Stauffer, 'Täufertum und Märtyrtheologie', *Zeitschrift für Kirchengeschichte* 3 (1933): 545–98. For a discussion of Stauffer's article see: *The Mennonite Encyclopedia*, 'Martyrdom, Theology of'.

23 In this sense, the Mennonite moral lifestyle, which was close to the orthodox Calvinist lifestyle at the time, very well illustrates Simon Schama's analysis of the Dutch moral ambiguity about materialism. The seventeenth century affluence called for a right balance between propriety and excess. This balance, which Schama calls 'the effort to moralize materialism', was found in rules governing social manners. See Simon Schama, *The Embarrassment of Riches. An Interpretation of Dutch Culture in the Golden Age* (Bath, 1987), pp. 48–50.

24 Hans Ries in Samme Zijlstra, *Om de ware gemeente en de oude gronden. Geschiedenis van de dopersen in de Nederlanden 1531–1675* (Hilversum, 2000), p. 447. My translation.

25 The original Dutch title of the work is: *Het Bloedigh tooneel der doops-gesinde en wereloose Christenen, die om het getuijgenisse van Jesu hares salighmakers geleden hebben en gedoodt zijn van Christi tijt af, tot dese onse laetste tyden toe. Een vergrootinge vande voorgaende Martelaers Spiegel, uyt vele geloofweerdighe chronijcken, memorien, getuijghenissen, etc.* (Dordrecht, 1660). The stories known as the *Martyr's Mirror* were so widely dispersed that they were even quoted in the Mennonite articles of confession of 1896.

some burnt, others broken on the wheel, many torn by wild beasts, half devoured, and put to death in manifold cruel ways; a great multitude who having escaped death bear the marks of Jesus, their Saviour, on their bodies.²⁶

However, even though the depictions of the dismal body are horrid, Van Braght wrote, that ‘the soul will nevertheless rejoice in it’, for death is preferred above a life forsaking the true faith. Van Braght was very much aware of the riches and temptations of his time. He warned his readers against that which is ‘external and corporeal’, and he urged them to look to what is ‘internal and pertains to the soul’. Particularly in his time, he wrote, the devil is going around like a roaring lion, seducing people, using their weakest spot – their vain craving for money, sex and luxury. Van Braght stated:

through his (Satan’s) instigation the world now reveals itself very beautiful and glorious, more than at any preceding time, in a three-fold pleasing form – the lust of the flesh, the lust of the eye, and the pride of life. Almost all men run after her, to worship her as a queen supreme; but all are deceived thereby; yea, many who have drunk of the poisoned wine of her lust from the golden cup of her iniquities and deceptions, die a spiritual death.²⁷

Van Braght presented his *Martyr’s Mirror* as ‘a school of practice in virtue,’ in which young and old could learn how the martyrs forsook the vanities of the world and persisted in the true faith.²⁸ Better than any other teaching, so he thought, the examples of the martyrs would show that outward ‘bodily’ appearances do not matter, but only the inner purity of the soul.

Contrary to his brother Lambert, who was a preacher in orthodox Mennonite circles, Govard Bidloo did not adhere to the strictest current of Mennonites. His parents, Govard Bidloo and Maria Lambertd, were *doopsgezind*, which was how the moderate Mennonites, the *Waterlanders*, called themselves. Moreover, Bidloo adhered to ‘Lammist’ ideas, professed by the more lenient members among the *Waterlanders*. The ‘Lammists’ emphasised the importance of an irreproachable life and the inner experience of faith, instead of a careful application of the Mennonite articles of faith. A major consequence was that the ‘Lammists’ wanted to open Holy Communion to everyone who felt that his life was in accordance with God and His commands. Thus, contrary to the majority of Mennonites, who viewed (adult) baptism as the only legitimate reason to join the Lord’s table, the ‘Lammists’ left the decision to the believer himself.²⁹ This not only raised man’s own responsibility, but in a way, also his freedom.

26 Van Braght, *Martyr’s Mirror*, preface. My italics.

27 Van Braght, *Martyr’s Mirror*, preface.

28 Van Braght, *Martyr’s Mirror*, preface to the young, the middle-aged and the old.

29 Around 1555 the *Waterlanders* separated themselves from the main group of Mennonites founded by Menno Simons. The main reason was that they thought less strictly about Simons’s teaching on excommunication. In the 1660s The *Waterlanders* separated again into two main groups: firstly, the ‘Lammists’, who followed Galenus Abrahamsz (1622–1706), whose thought was influenced by Collegiant and Socinian ideas, and secondly, the ‘Zonists’ (named after the Dutch word for ‘sun’), who emphasised the traditional Mennonite articles of faith, which were much more strict than the ideas of the Lammists. For a good history of

At first sight Bidloo's love of theatre and his many gay poems for weddings and other special occasions seem to be in stark contrast to the Mennonite ascetic lifestyle.³⁰ However, the contradiction is only an apparent one. In Mennonite circles 'mundane' affairs referred only to sins of the flesh, an unbiblical lifestyle and catholic devotion. It did not encapsulate the whole of social and cultural life. Unlike the reformed believers, whose ideas on 'mundane' affairs included the arts and literature, the Mennonites loved poetry, music and theatre. It has even been said that the Mennonites were of utmost importance for the prospering of cultural life in the Dutch Republic in the seventeenth century.³¹ So Bidloo's love of poetry and theatre does not contradict the Mennonist lifestyle. On the contrary, just as Bidloo's aversion to unnecessary decoration fits the words of Menno Simons, so his artistic activities expose him as a typical Mennonite.

So far historians have never ascribed Mennonite characteristics to Bidloo's anatomy.³² Yet, I argue that Bidloo's aversion to methods to 'enliven' dead bodies and his preference for depicting the mutilation and cruel reality of the dissected body, are remarkably close to the Mennonite fascination for martyr stories of torture and suffering. In particular compared to Bidloo's first work, his *Brieven der gemartelde apostelen* ('Letters of the Tortured Apostles', 1675), Bidloo's anatomical atlas gets a specific Mennonite ring.

Bidloo, in his *Brieven*, which were heavily influenced by Van Braght's *Martyr's Mirror*, stated that the martyr apostles followed Christ into suffering and death and he argued that everyone is called to listen to the divine moral lesson, for 'faith and suffering are at the core of Christ's teaching.'³³ Time and again Bidloo, through the mouth of the apostles, warned his readers against the vanity of earthly splendour and the seducing power of good food, wine and women. Instead, man should follow the example of the apostles who adorned themselves with blood pearls, signifying their suffering for the true faith. For instance Bidloo's letter of the apostle Peter to Julianus reads:

the Mennonites in the Low Countries see Zijlstra, *Ware gemeente*. The work of Zijlstra is an important revision of Nanne van der Zijp, *Geschiedenis der doopsgezinden in Nederland* (Arnhem, 1952).

30 See Govard Bidloos *Mengelpoëzy* (Leiden, 1719).

31 Zijlstra, *Ware gemeente*, pp. 464–90. Among the most well-known Mennonite artists are Michiel Jansz van Mierevelt, Carel van Mander, Lambert Jacobsz, Samuel van Hoogstraten, Govert Flinck and Jacob van Ruysdael. Even Joost van den Vondel, the well-known Dutch poet, was from Mennonite descent, although he converted to Roman Catholicism later in life.

32 For instance, Vasbinder in his PhD thesis on Bidloo and Cowper has not paid any attention to Mennonite ideas present in Bidloo's anatomy. Vasbinder, *Bidloo en Cowper*. Olga van Marion has even denied that Bidloo's atlas shows any Mennonite characteristics. 'Heroides-imitaties van Govert Bidloo: De *Brieven der gemartelde apostelen* uit 1675', *De Nieuwe taalgids* 87 (1994): 499–514; see p. 510.

33 Govard Bidloo, *Brieven der gemartelde apostelen* (Amsterdam, 1712), dedication to Joan Six, former mayor of Amsterdam. For the influence of Van Braght on Bidloo see Van Marion, 'Heroides-imitaties'. She has compared the two works and she convincingly shows that in many places, Bidloo's words are exact copies of the lines of Van Braght. Also Bidloo's comments in the footnotes and his discussion of sources are strikingly similar.



Fig. 7.3. Govard Bidloo, *Brieven der Gemartelde Apostelen*, 1675, Frontispiece. Courtesy of Groningen University Library.

We ... long to paint the shameful wood [of the cross] with honest blood
 And decorate our silver-white hair with the shine
 Of solidly clotted blood rubies from hand and foot.³⁴

³⁴ Bidloo, *Brieven*, p. 12. 'Wy ... verlangen 't schandelyk hout met eerlijk bloed te verven, En 't zilverwitte hair te çieren met den gloet, Van bloetrobynen, styf gestolt, uit hand

Bidloo's letter of the apostle Bartholomeus to Simon Cleophas similarly states that:

Every drop of blood paints the ground like a carpet for my foot
The bloody skin is like a purple cloak around me.³⁵

Blood and suffering are important themes in Bidloo's *Brieven*, because, as he stated, 'nobody can enter [into heaven] but with bleeding limbs, or when he, as witness of Christ's blood, has fought for God in his heart'.³⁶

Throughout his life Bidloo was busy with his martyrs. The *Brieven* was his first work and his last. For the second edition of 1698 he improved the spelling and to the third edition, which was published in 1712, a year before his death, Bidloo extended his comments in the footnotes and he added two letters of the evangelists Mark and Luke. Obviously, Bidloo was very fond of his martyr apostles and therefore it cannot be a coincidence that his anatomical work shows characteristics of suffering, pain and torment.

Van Braght's comment that he would take his readers into 'dark valleys, even into the valleys of death [Ps. 23, 4], where nothing will be seen, but dry bones, skulls, and frightful skeletons of those who have been slain' could as well be an accurate introduction to Bidloo's atlas. The way he depicted his dissected bodies shows nothing less but the grim reality of the 'valley of death'. Although one has to admire the artistry of the plates, at the same time, there is nothing pleasing about the depicted cadavers. The corpses are not placed in a pleasant landscape and often one is 'painfully' confronted with the harsh reality of anatomical procedures. Who, for instance, enjoys watching a pin stuck into the nose and appearing from the throat again? Moreover, the corpses are regularly composed in a way emphasising the violent nature of their death. For instance on the plates illustrating the dissected face, a tortured expression is still visible. In that sense the expression on Bidloo's dissected face is strikingly similar to Le Brun's ideal representation of bodily agony.³⁷

en voet.' Peter was crucified upside down.

35 Bidloo, *Brieven*, p. 32. 'Elk bloedvlek maalt de grond myn voet tot een tapyt, 't Bebloede vel zal my een purper mantel strekken.' According to Bidloo, Bartholomeus was broken on the wheel, flayed and beheaded.

36 Bidloo, *Brieven*, explanation of the frontispiece.

37 Charles Le Brun, *Afbeelding der hertstogten of middelen om dezelve volkomen te leeren afteekenen in Nederduits vertaalt door F. de Kaasgieter* (Amsterdam, 1703). Gérard de Laresse, in his works on painting and drawing, also prescribes how to represent facial expressions. His descriptions are strikingly similar to those of Le Brun.



Fig. 7.4. Govard Bidloo, *Anatomia humani corporis*, 1685, plate 12. Courtesy of Groningen University Library.



Fig. 7.5. Govard Bidloo, *Anatomia humani corporis*, 1685, plate 30. Courtesy of Groningen University Library.

The body on plate 30, seems to be ‘fresh’ from the gallows. A rope around the neck not only stabilises the body in an upright sitting position, it also refers to death by hanging. This conclusion is reinforced by the corpses hands, which are bound on the back, thus emphasising the ‘criminal’ status of the body.³⁸

Bidloo’s illustrations, in addition to showing the divine design of the body, function as a glorification of suffering. Both aspects were contained in his idea of perfection. Like many of his Mennonite contemporaries, Bidloo viewed critically the affluence and arrogance of the Dutch. In his *Brieven* he pointed towards the suffering of the martyrs and their inner strength to forsake the temptations of the world. In his atlas, he likewise showed the mortality of the flesh and in so doing he emphasised the vain nature of many of the body’s desires. Moreover, in making suffering and pain an integral part of his perfect depictions, he, as it were, approved and recommended suffering as a way to ban the corruptions of the flesh.

At this point I have to address what might seem a decisive objection. So far, I have attributed the ideal of perfection visible in Bidloo’s anatomical atlas to Bidloo’s own convictions. Yet, it was Gérard de Lairesse (1640–1711), a then famous artist, hired by Bidloo, who drew the plates. So it can be objected that the plates rather represent Lairesse’s ideas. This claim seems to be supported by the publishers of William Cowper’s reproduction of Bidloo’s anatomical atlas in 1698. In their defence against accusations of plagiarism, they claimed that Lairesse did not originally make the plates for Bidloo, but for the natural historian Jan Swammerdam.³⁹ The objection, however, rests upon a mistaken view about the relationship between the artist and the anatomist. Lairesse did not act entirely on his own account, but Bidloo (and not Swammerdam) hired him in to execute his – Bidloo’s – wishes. In his book on painting Lairesse wrote that he made the plates ‘as he [Bidloo] desired’.⁴⁰ With the exception of the measurements of the skeleton, Lairesse hardly referred to Bidloo. Moreover, Lairesse distanced himself from Bidloo’s idea of perfection. He was not keen on representing strong emotions and deformed bodies, because this would distort his ideal ‘to make perfect beauty visible through art’.⁴¹ Even the dead body, which cannot compose itself, has to be painted in such a way that it looks most beautiful – and the illustration of beauty, as we have seen, was not one of the aims of Bidloo’s anatomy.⁴² Lairesse even went as far as to recommend his students and fellow artists to study the much older prints of anatomical ‘nudes’ of Iacob van der Gracht, which, in his view, were better suited for learning the art of drawing.⁴³

38 Katharine Park has observed a similar linking of the criminal and saintly body in Renaissance anatomy. See Katharine Park, ‘The Criminal and the Saintly Body: Autopsy and Dissection in Renaissance Italy’, *Renaissance Quarterly* 47 (1994): 1–33.

39 Paule Dumaître, *La Curieuse Destinée des planches anatomiques de Gérard de Lairesse* (Amsterdam, 1982), p. 61.

40 Gérard de Lairesse, *Het Groot schilderboek*, 2 vols (Amsterdam, 1707), vol. 1, p. 21.

41 Lyckle de Vries, *Gerard de Lairesse. An Artist between Stage and Studio* (Amsterdam, 1998), pp. 174 and following.

42 Lairesse, *Schilderboek*, vol. 1, p. 26.

43 Gérard de Lairesse, *Grondlegginge ter tekenkonst* (Amsterdam, 1727), p. 57.

To conclude, Bidloo's idea of perfection was contained in a combination of showing the cruel reality of suffering and pain on the one hand and the artful structure of the body on the other. Ultimately, so he thought, this would better teach man to look upon their creator, than the Ruyschian exhibition of little infant bodies, illustrating the fragility of life, for his atlas, Bidloo stated, showed the perfection and artistry (*kunstige*), as well as the corruption (*verderfelijke*) of the human body, so that his readers would 'see, know and praise the wonderful works of the almighty Architect, with a humble mind'.⁴⁴

Albinus's *Tabulae Sceleti et Musculorum Corporis Humani*

The aspect of suffering and pain is totally absent from Albinus's *Historia musculorum hominis*, published in 1734, almost 50 years after Bidloo first published his anatomical atlas. Together with his work on the human bones, Albinus's atlas has been seen as one of 'the most influential anatomical atlases of the idealised sort'.⁴⁵ The 'repulsive' image of anatomical reality, which was so striking in Bidloo's atlas, is completely absent in Albinus's work. His skeletons and musculi are clean and attractive representations of perfectly proportioned bodies. They walk about and stand in unspoiled and pleasing environments, which remind one of traditional depictions of paradise.⁴⁶ Even the skeletons, often representing the end of life, do not explicitly remind the beholder of his mortality.⁴⁷ Unlike Bidloo's dissected cadavers, Albinus's musculi and skeletons are alive – moreover, they seem to feel comfortable. Their 'facial' expression is calm, sometimes even smiling, almost as if they are pleased with their appearance in Albinus's atlas. A greater difference in representation is hard to imagine. Still, this does not mean that Albinus's anatomical figures are void of moral lessons. I argue that even though the skeletons and muscle manikins do not carry traditional *vanitas* motives, they still have a moral message, which is closely connected to Albinus's particular notion of perfection.

The eighteenth-century anatomist Albrecht von Haller called Albinus the initiator of the period in anatomy of the *anatomes perfectio*.⁴⁸ In so doing Haller distinguished the kind of 'perfect anatomy' put forward by Albinus, from ideas on anatomical

44 Bidloo, *Ontleding*, introduction.

45 Daston and Galison, 'The Image of Objectivity', p. 89. Note that Albinus's work on the bones and the muscles as mentioned in the subtitle was published in 1747.

46 It has been argued that the backgrounds to Albinus's plates refer to images of Arcadia and the melancholic contemplation of the natural cycle of birth and death. This conclusion is reinforced by the emergence of a tomb alongside shady trees and gurgling streams. See Museum Boerhaave, *De Volmaakte mens: De anatomische atlas van Albinus en Wandelaar* (Leiden, 1991), p. 15. This does not necessarily refute my thesis – after all, the anatomical figures are as much about life as they are about death.

47 Traditionally skeletons are depicted with traditional *vanitas* attributes such as an hourglass, sickle, spade or winding-sheet (see for instance the above-mentioned depictions of the skeletons in Bidloo's atlas). Also, in the case of Vesalius' *De fabrica* we find skeletons in depressing positions contemplating the mortality of the body.

48 Albrecht von Haller, *Bibliotheca anatomica*, 2 vols (Zurich, 1774–6), vol. 2, pp. 126–30.

perfection entertained by others, thereby illustrating the idea that, although perfection was an unquestionable goal for all anatomists, they at the same time defined the concept differently. For Bidloo, a perfect illustration was a *representatio ad vivum* (from or to the life) based on one single anatomical preparation, while Albinus's *homo perfectus* was based on a 'golden mean', calculated from a great number of cadavers.⁴⁹ It was based on the three principles of objectivity, symmetry and vitality.⁵⁰ This means that for Bidloo perfection was closely related to what was directly visible, while Albinus conformed his anatomical bodies to an idealised idea of perfection, which he had planned previously. Additionally, Bidloo was fiercely opposed to unnecessary decorations, while Albinus agreed with his artist Jan Wandelaar, 'to fill up the pages with "ornaments" in order to make them [the tables] more agreeable'.⁵¹

We have seen that Bidloo's idea of perfection can be traced back to his Mennonite beliefs. Just so, I suggest that Albinus's *homo perfectus* reflects Dutch Enlightenment ideals. This is not to suggest that Bidloo's atlas must be explained in religious terms, while Albinus's work was largely secular. Recent scholarship has shown that an interpretation of Dutch Enlightenment culture as a 'secular' movement is mistaken. In addition to being influenced by humanist thought, Dutch Enlightenment ideas were embedded in Calvinism.⁵² Albinus's idea of perfection, I argue, was embedded in a specific Reformed Enlightenment attitude towards creation and the study of nature. Moreover, the moral lesson connected to the *homo perfectus*, reflects ideals of Dutch Enlightenment Calvinism.

While Bidloo's religious affiliation was widely known not much was said about Albinus's religious beliefs. Like all professors at Leiden University he was a member of the Calvinist Reformed Church, and the religious views expressed in his

49 Claudia Swan has studied the importance of the representational mode of *ad vivum*, which by 1604 had been integrated into Dutch art theory. It stands in opposition to images *uyt den geest* (from the spirit or imagination) in order to show the lifelike 'scientific' (verifiably accurate) nature of illustrations. See Claudia Swan, 'Ad vivum, naer het Leven, from the Life: Defining a Mode of Representation', *Word and Image* 11 (1995): 353–72. Svetlana Alpers has argued that for the Dutch *naer het leven* and *uyt den geest* refer to distinguished sources of visual perception. 'While *naer het leven* refers to everything visible in the world, *uyt den geest* refers to images of the world as they are stored mnemonically in the mind.' See Svetlana Alpers, *The Art of Describing: Dutch Art in the Seventeenth Century* (Chicago, IL, 1984), pp. 40–1.

50 Museum Boerhaave, *De Volmaakte mens*, p. 6.

51 Albinus in Daston and Galison, 'Images of Objectivity', p. 89. Additionally Wandelaar himself was also keen on filling in the backgrounds as this would preserve the right light in the illustrations. He argued that lively backgrounds would soften the white of the paper in order to bring out the details of the anatomical figures better. See Museum Boerhaave, *De Volmaakte mens*, p. 14.

52 Recently historians have argued that it is too simple to state that the Enlightenment undermined religious beliefs and organisations. Instead they have argued that 'the [eighteenth] century can also be seen as one of great religious creativity'. See Dorinda Outram, *The Enlightenment* (Cambridge, 1995). For the Dutch context see: Ernestine van der Wall, 'Religie en Verlichting: Harmonie of conflict? Inleiding op het themanummer', *De Achttiende eeuw: Documentatieblad van de Werkgroep Achttiende eeuw* 32 (2000): 5–15; see p. 10. See also the other articles on 'Religion and Enlightenment' in this special issue of *De Achttiende eeuw*.

lectures fit the physico-theological views preached in his church.⁵³ We have neither positive nor negative records of Albinus's religious life. Nor was he involved in any religious controversies. Yet his atlas shows traits of a particular Enlightenment attitude towards theology and (natural) philosophy.⁵⁴

In order to understand the particular religious references in Albinus's atlas, it is first necessary to briefly discuss the nature of Dutch Enlightenment Calvinism and its influence upon natural philosophy. Dorinda Outram, in her essay on Enlightenment has distinguished two important aspects of Enlightenment natural philosophy: first, the idea of nature as a result of God's ordering hand and, second, the idea of nature as ethical norm:

For 'natural philosophy', 'nature' was seen as an expression of God's ordering hand and was, therefore, largely represented ... as ordered, as obeying 'laws' and so providing a benevolent habitat for man, who was thus enabled by God to carry out his purposes. 'Nature', however, also had other important meanings in the Enlightenment ... The 'natural' was seen as the 'good', meaning original, authentic, simple, uncorrupted ... Thus 'nature' became a description of a moral ideal as well as of a scientifically discernable order, and was thus seen as something which could reside in the hearts of men, as much as being an external order visible and tangible and measurable to natural philosophers.⁵⁵

It was particularly the second aspect discussed by Outram that had immediate consequences for the image of human nature in Dutch Calvinism in the eighteenth century. For a long time the notion that man is corrupted by sin, incapable of doing any good and inclined to evil dominated Calvinist thought in the Dutch Republic.⁵⁶ This image, however, changed during the eighteenth century. The seeking of happiness and pleasure was explicitly discussed in scientific societies, journals, literature and dictionaries. Also diaries of the time reveal that the earth was no longer solely seen as a vale of tears, but that happiness could and should be part of life.⁵⁷ In the second half of the eighteenth century this awareness was also linked to virtue and it culminated in the work of the orthodox professor Jacob van Nuy's Klinkenberg (1744–1817), who argued in 1793 that self-denial is the self-regulating control of the desire for happiness. This, as the historian Buisman has argued, was an important

53 All Leiden professors were obliged to be members of the Reformed Church. It is not clear whether this condition was waived in the case of Bidloo, who was a Mennonite, or whether Bidloo formally changed to the Dutch Calvinist church.

54 For the effects of the Enlightenment at Leiden University see Willem Otterspeer, *Groepsportret met dame: De vesting van de macht. De Leidse Universiteit 1673–1775* (Amsterdam, 2002).

55 Outram, *The Enlightenment*, p. 50.

56 Sunday 3 of the Heidelberg Catechism, which was widely studied in Calvinist circles, states that, unless man is reborn in Christ, his nature is corrupt; he is incapable of doing any good and inclined to do evil.

57 Peter Buijs, 'De Mens is tot geluk geschapen: Naar een geschiedenis van het geluk in de Republiek ten Tijde van de Verlichting', *Tijdschrift voor geschiedenis* 108 (1995): 188–208; see pp. 190 and 207. Buijs argues that the longing for happiness was not peculiar to Dutch Enlightenment thought, but Buisman justifiably places the Dutch variant of the idea of happiness in a specific religious context.

change from the idea of self-denial connected to spiritual combat in order to defeat sin, to the much more optimistic image of man longing for happiness.⁵⁸

Buisman attributes the change to the influence of Enlightenment thought upon Calvinist theology. From the late seventeenth century onwards the idea that man is created to live in happiness became increasingly accepted. The controlling of sinful desires was still important, but equally significant became the idea that a rational government of the passions would necessarily entail virtue and happiness. So instead of condemning human passions and desires, theologians started to integrate them into a rational system.⁵⁹ Consequently, in the latter part of the eighteenth century Dutch Enlightenment theologians felt comfortable with the notion of happiness. They cherished an ideal image of man, mirroring Christ, and they took it upon themselves to educate people and to turn them into virtuous and therefore happy citizens.⁶⁰ Aspects of this ideal of 'perfectibility', however, are already visible in Albinus's anatomical atlas of 1734, for he no longer stressed the depravity of human nature, but presented a much more positive image of man.

Already the first plate in Albinus's *Tabulae sceleti* represents this eighteenth-century happy picture of man. With a theatrical movement a putto reveals a 'smiling' skeleton from behind a cloth, perhaps a winding sheet, establishing the divine miracle of man's creation. The skeleton, being the basic unit of the body to which all other parts are related, is perfectly proportioned and its smile is indicative for the comfort and happiness of life in paradise.

Thus, while Bidloo's dead and dissected cadavers had to make man aware of his mortality and the vanity of his earthly desires, Albinus's *homo perfectus* is a celebration of life.

Both the spiritual well-being of Albinus's happy skeleton and the physical perfection of the human body are expressions of a vital force, lodged by the Creator in the body of man. In line with the above-mentioned first aspect of Enlightenment thought, Albinus described the vital force as a manifestation of divine providence through which God enables man 'to carry out his purpose'. It is comparable to the Hippocratic *enhormôn* and determines mental and physical growth from a simple and imperfect embryonic state to a state of perfection. The greatest perfection is reached at the age of 30. Ideally, man is then 1.67m tall, which, somehow not surprisingly, was exactly Albinus's own height.⁶¹ So Albinus's 'happy' skeletons and muscle manikins were visual proof of God's working in the body via vital force

58 Jan Wim Buisman, "'Onbekwaam tot enig goed?'" Over de mensbeschouwing van de Protestantse Verlichting', *De Achttiende eeuw* 32 (2000): 119–27; see p. 119.

59 Buisman, 'Onbekwaam tot enig goed?', p. 120.

60 For a definition of eighteenth-century 'perfectibility' see Jeremy Black and Roy Porter (eds), *A Dictionary of Eighteenth-Century History* (London, 1994); John W. Yolton (ed.), *The Blackwell Companion to the Enlightenment* (Oxford, 1991). See also John Passmore, *The Perfectibility of Man* (London, 1971).

61 Hendrik Punt was present when Albinus's remains were exhumed in 1979. He discovered that Albinus's height was 1.67m, the height he used as an ideal dimension of the *homo perfectus*. Hendrik Punt, 'Bernard Siegfried Albinus (1697–1770). On *Human Nature*. Anatomical and Physiological Ideas in Eighteenth-Century Leiden', PhD dissertation, University of Leiden, 1983, p. 13.



Fig. 7.6. Bernard Siegfried Albinus, *Tabulae sceleti*, 1734, plate 1. United States National Library of Medicine, National Institutes of Health.

– for his idea of divinely inspired *vis vitalis* meant that God steers the growth of the body as well as its state of mind towards greater perfection.⁶² Albinus discussed the working of this vital force in his lectures on physiology. Although he published only a little on physiological subjects, student notes show that, from the beginning of his career, physiology stood high on his medical agenda. This was not unusual. Andrew Cunningham has convincingly shown that early modern physiology was ‘an essential foundation of medical knowledge’, depending ‘crucially on anatomy’. With respect to the human body ‘it discussed how it is, how it works and why’.⁶³ The case of Albinus shows that his anatomical figures represent physiological principles – and these physiological principles, which in Albinus’s case are vital forces, were all about the nature of the body: they explain why the anatomy of the *homo perfectus* is as it is.⁶⁴

The exact working of the vital force was subject of much speculation, and Albinus warned his students that his teaching was based on research in progress. His main problem was to explain that the body functions according to mechanical and hydraulic laws, while at the same time arguing that it depends on ‘something subtle, that appears to be corporeal as well as a product of the body itself, different from the thinking part and also different from the mechanical force’.⁶⁵ Albinus’s clearest explanation of vital force can be found in his lectures on natural functions.⁶⁶ Vital force, he argued, ‘is a contraction, as a result of which the fleshy fibres become shorter’.⁶⁷ This contraction differs from the Newtonian contraction of cohesion and the stiffening of muscles after death. It is a subtle force in the fibres themselves and does not depend on the nerves and arteries.⁶⁸ It acts either spontaneously (a damaged muscle contracts suddenly and in spite of itself), or naturally (contractions of the heart) or from the will. Albinus regarded the swelling of muscles in action as

62 See for instance: MS Box, fol. 587, in Punt, ‘Bernard Siegfried Albinus (1697–1770)’, pp. 162–3.

63 Andrew Cunningham, ‘The Pen and the Sword: Recovering the Disciplinary Identity of Physiology and Anatomy before 1800. Part One. Old Physiology: The Pen’, *Studies in History and Philosophy of Biological and Biomedical Sciences* 33 (2002): 631–65; see pp. 640–2. Cunningham argues that physiology discusses: the smallest – sub-visible – units of the body; the ultimate source of motion and change in the body; and the ‘grand functions’ of the body, such as nutrition, respiration, sensation and generation.

64 Punt has already argued that Albinus’s plates represent the working of *vis vitalis*. Punt, however did not connect the vital force to a specific kind of morality. See Punt, ‘Bernard Siegfried Albinus (1697–1770)’, p. 53.

65 Punt, ‘Bernard Siegfried Albinus (1697–1770)’, p. 145. ‘[E]st aliquid subtile, quod et corporeum videtur esse et productum ipsius corporis, diversum a cogitatione et quod tamen diversum sit a vi mechanica’.

66 Here I use Hendrik Punt’s edition and translation of the lecture notes of Wilhelm Box, Abraham Bäck and an Anonymous attached to Punt’s ‘Bernard Siegfried Albinus (1697–1770)’.

67 MS. Box, fol. 461, In Punt, ‘Bernard Siegfried Albinus (1697–1770)’, p. 139. ‘[E]st vis quam vitalem appello, est contractio quaedam, qua fibrae carneae contrahunt et fiunt breviores.’

68 Albinus’s denial of force in the nerves (*vis nervosa*) infuriated Albrecht von Haller and the two anatomists entered a controversy lasting about 10 years.

the best proof of the working of vital force. For this reason it is not surprising that 'muscle manikins' have an important place in his anatomy. Moreover, the rhinoceros behind the musclemans on *Musculorum tabula IV*, at the time symbol of invincible strength and terrible anger, symbolises the uncontrollable *vis vitalis* steering the life and motion of the human body to a state of greater perfection.⁶⁹

The vital force not only affects bodily growth, but also mental strength, virtue and happiness. In the same way that it transforms food into flesh, bones and cartilage, so it increases, maintains and recovers the very subtle spirits of the soul.⁷⁰ For this reason it is closely connected to the second (ethical) aspect of Enlightenment thought – Albinus's description of the twofold working of the vital force best represents the fact that, in the words of Outram, 'nature ... was seen as something which could reside in the hearts of men, as much as being an external order visible and tangible and measurable to natural philosophers'.⁷¹

The determining effect of vital force, through the spirits, on the character of man is particularly evident when Albinus speaks of nutrition. Since the presence and working of spirits are closely connected to the faculties of the soul (in particular the thinking part), those people who have a strong body, generally also have a well-balanced soul.⁷² So Albinus argued that 'those who eat food with too little *spiritus* [such as fish and olives] have an inert body without *spiritus*'. They are lax and slow and have a tendency to become melancholic and hypochondriac. On the other hand, 'those who eat food rich in *spiritus* [meat in particular] have a certain strength'. Apparently it is best to live in England, because, according to Albinus, 'among those who went to England, some returned appearing very robust and not only physically, but also mentally'.⁷³ It is not unthinkable that Albinus was not only thinking about the rich content of English food, but that he was also contemplating the 'healthy' effects of the ideals of liberalism in the country of freedom.

Thus, Albinus's *homo perfectus* not only represents the physical body as an effect of the working of vital forces installed by the Creator, but also the pursuit of happiness and virtue. In other words he treated the vital forces of nature as guiding principles leading the body as well as the soul towards a state of greater perfection – and perfection, for Albinus, was no longer related to self-denial and inner spiritual combat, but to happiness and virtue.⁷⁴ In view of his great emphasis on life forces, it is not surprising that Albinus hardly included any vanity symbols in his pictures, let alone anything alluding to death and dissection.⁷⁵ His view of the perfection of nature did not include anything imperfect, anything working against God's divine intentions. For this reason Albinus's illustrations were ideal images, rather than

69 Museum Boerhaave, *De Volmaakte mens*, p. 16.

70 Punt, 'Bernard Siegfried Albinus (1697–1770)', p. 163.

71 Outram, *The Enlightenment*, p. 50.

72 Punt, 'Bernard Siegfried Albinus (1697–1770)', p. 167.

73 Punt, 'Bernard Siegfried Albinus (1697–1770)', p. 167.

74 The teleological ideal of growth towards perfection is rooted in Aristotelian thought – everything, including man, has a natural end in which it can find perfect satisfaction. Aristotle calls this end *eudaimonia*, happiness or well-being. Teleological thought was also important in Stoicism, which was in turn influential in Calvinist thought.

75 Punt, 'Bernard Siegfried Albinus (1697–1770)', p. 53.

depictions of things existing in the real world. Moreover, the ‘happy’ appearance of his *homo perfectus* indicates that the perfection of creation was no longer only directed towards making people aware of their sinfulness and mortality, but it was also seen as a guide to enjoy life. So, even though both Bidloo and Albinus stressed the perfection of the divine design, at the same time they thought very differently about the expression of perfection in their illustrations. While Bidloo’s anatomical martyrs hint at the perfection of suffering in pursuit of Christ, Albinus’s anatomical illustrations are a celebration of perfect life. Even the paradise-like surroundings of Albinus’s anatomical figures reinforce this conclusion.⁷⁶ Albinus’s illustrations, in other words, allow the beholder a glimpse of the divine perfection of paradise. This had direct consequences for the moral lesson connected to Albinus’s ideal of perfection. He no longer wanted to solely stress man’s mortality and the coming divine judgement, but in his anatomical illustrations he also hinted at the duty of man to pursue happiness and virtue on earth.

Summing up, the conceptions and moral lessons of perfection employed by Bidloo and Albinus in their anatomical atlases were fundamentally different. A comparison of their work shows that the concept of perfection, like the concept of happiness in ancient times, is not a ‘thick’ concept, which singles out a unified group of phenomena. Rather, the concept of perfection is an ‘obvious, but thin, description’ which can and has to be defined according to the assumptions of the author employing the concept. The cases of Bidloo and Albinus illustrate that it was possible to represent perfection in totally different ways, while each anatomist, at the same time, could claim to have represented *the* perfect body.

⁷⁶ Hendrik Punt has pointed to the striking resemblance of Albinus’s illustrations and Albrecht Dürer’s Adam. Punt, ‘Bernard Siegfried Albinus (1697–1770)’, p. 68. This strengthens the idea that Albinus placed his anatomical figures in a kind of paradise.

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‘Imperfect Chaos’: Tropical Medicine and Exotic Natural History c. 1700¹

Benjamin Schmidt

Hot Medicine

By the dawn of the Enlightenment, European medicine had become strikingly international.² It is not so much that physicians went abroad to learn about foreign healing techniques, to dabble in non-European medical practices, or to study those exotic illnesses lately contracted by their Old World countrymen stationed in the tropics – all of which was in fact the case. It is more that the geographic range of medical study back in Europe and the interest European practitioners took in exotic pharmacological materials expanded vastly in this period and did so owing in no small measure to the escalating European presence overseas. From the late seventeenth century, European medical practitioners began more intensively than ever before to observe, describe, assemble and ultimately incorporate into their systems of knowledge – into their medical texts, working apothecaries, supplies of simples, stores of minerals, flora and other natural specimens – materials and methods imported from abroad. Above all, the habit of collecting exotic *naturalia* surged in this period, stimulated by the hands-on practitioner and armchair collector alike. ‘I humbly entreat that all practitioners, who travel to foreign countries, will be pleased to make collections ... of whatever plants, shells, insects, &c they shall meet with.’³ Thus advised the London apothecary, James Petiver, a stay-at-home correspondent

1 Research for this essay was done, in part, at the Huntington Library, Pasadena, and the Koninklijk Instituut voor de Tropen (Royal Tropical Institute), Amsterdam; and I would like to thank the helpful curators at both of these institutions and to acknowledge the Andrew W. Mellon Foundation, the W.M. Keck Foundation, and the Royalty Research Fund of the University of Washington for support of that work. I would also like to thank Susan Legêne, Catherine Fisher, Roy Ritchie, Louise Townsend, Paul White, and the editors of this volume for their generous suggestions.

2 This essay grows out of a larger project on geography and globalism c. 1700, particularly the development of ‘exoticism’ at this pivotal moment of European expansion. While I am not particularly vested in ongoing debates about the ‘Enlightenment’ per se or its timing, I do take the term to denote, following Jonathan Israel’s recent work on the subject, the prolonged moment of intellectual upheaval and cultural transformation that commenced in the final decades of the seventeenth century. Israel’s critical period of gestation and his favoured place of ferment happen to correlate nicely to the period and place identified as pivotal by this essay, namely Holland from the 1660s through 1730s. See J. I. Israel, *Radical Enlightenment: Philosophy and the Making of Modernity 1650–1750* (Oxford, 2001).

3 Cited in Victoria Dickenson, *Drawn from Life: Science and Art in the Portrayal of the New World* (Toronto, 1998), p. 148.

and avid assembler of all matters medicinal, who hoped that his overseas colleagues would deliver such exotic commodities to Petiver himself. For Petiver, like so many others who inhabited the world of natural history in turn-of-the-century London, Paris, Amsterdam, Stockholm, Berlin and Rome, was eager to bring some semblance of the tropics into his personal possession.

More broadly, the Enlightenment ushered in a grand project of global expansion and global description, whereby the natural world *in toto* was meant to be rendered mimetically: observed, recorded and reproduced in such a manner that Europe would possess, in representative form at the very least, the non-European natural world. The results were intended, furthermore, to be circulated and comprehended into European systems of knowledge. Oliver Goldsmith, that enlightened 'citizen of the world' and Leiden-trained physician, summarised the project as follows, noting a two-step process:

Natural History, considered in its utmost extent, comprehends two objects. First, that of discovering, ascertaining, and naming all the various productions of Nature [throughout the world]. Secondly, that of describing the properties, manners, and relations, which they bear to us, and to each other. The first, which is the most difficult part of the science, is systematical, dry, mechanical, and incomplete. The second is more amusing, exhibits new pictures to the imagination, and improves our relish for existence, by widening the prospect of nature around us ... From seeing and observing the thing itself, he [the practitioner] is most naturally led to speculate on its uses, its delights, or its inconveniences.⁴

Goldsmith's concern with the 'delights' of natural history – the pleasure he takes in the 'amusing' practices of the discipline and his 'relish' for such processes that will generate 'pictures to the imagination' – are highly significant and will be taken up later in this essay. In the meantime, it should be noted, simply, that between Petiver's appeal for specimens and Goldsmith's analysis of what to do with them, a veritable explosion of geographic inquiry took place in Europe, which produced an unprecedented flood of materials on exotic medicine and natural history. During this period – which spans the three or four decades on either side of 1700 – the collection and classification of exotic specimens intensified; the importation and introduction of exotic flora into medicinal gardens expanded; and the reproduction and transmission of exotic images and texts on tropical *naturalia* accelerated, as engraved prints and lavishly-produced books on the extra-European world streamed off the presses and into the studies of physicians and others with an interest in the natural history of the expanding globe. The period around 1700 has been identified by David Freedberg as the 'apex' of early modern scientific engagement with the non-European world; the decade from 1695 to 1705, more particularly, has been celebrated as the *decennium mirabilis* of exotic natural history.⁵

4 Oliver Goldsmith, *An History of the Earth and Animated Nature*, 8 vols (London, 1774), vol. 1, p. iii; also cited (in abbreviated form) in Douglas Chambers, 'The History of Natural History', *University of Toronto Quarterly* 67 (1998): 620.

5 David Freedberg, 'Science, Commerce, and Art: Neglected Topics at the Junction of History and Art History', in David Freedberg and Jan de Vries (eds), *Art in History/History in Art: Studies in Seventeenth-Century Dutch Culture* (Santa Monica, CA, 1991), pp. 376–

This essay explores the confluence of medicine and overseas expansion around the turn of the eighteenth century, focusing on the production and consumption of natural historical materials, and on the style of their presentation, which Goldsmith characterised as ‘amusing’ yet which we might term, with perhaps equal imprecision, ‘exotic’. When it comes to production and consumption, it should come as no surprise that physicians and others in the world of medicine played a leading role in the business of natural history.⁶ Doctors, or ‘healers of the sick’ as they were called in the Dutch East India Company, were sent overseas primarily to care for servants of the company, yet they often used their time, as well, for the study of exotic plants and foreign medical techniques. Such investigatory work could be performed by men with a bona fide medical training – Willem Piso, for example, the physician who joined the celebrated humanist court of Johan Maurits in Brazil – although it could also be done by figures (women as well as men) who had, at best, a brush with natural history and could hardly, otherwise, be placed under the rubric of ‘doctor of medicine’ – Engelbert Kaempfer, for example, a soldier-turned-physician who travelled widely in Asia and authored the *Amoenitatum exoticarum politico-physico-mediciarum*, or Maria Sibylla Merian, a draftsman by training and correspondent with James Petiver and others who admired her breathtaking illustrations of the natural world of tropical South America. In all cases, they sent their specimens and drawings, and directed (and commonly dedicated) their texts and studies, expressly to the physicians of Europe or to so-called amateurs – *amantes* in Latin or *liebhaberen* in German, literally someone with a ‘love’ of the field – who avidly consumed the fruits of their labours. Illustrious professors of medicine, predictably, dominated the subscription lists to volumes of exotic natural history for which such evidence exists. And famous physicians, such as Frederick Ruysch, and outstanding apothecaries, such as Albertus Seba (like Ruysch, of Amsterdam) also contributed by their collection of exotic *naturalia* and their sponsorship of others who performed these duties overseas in their stead.

Another, perhaps less predictable quality of these materials is the crucial role played by the Dutch in their manufacture. While not all of the figures in this project hailed from Holland – the aforementioned Piso was a native son (born in Leiden),

428. Freedberg’s plea for greater attention to natural history produced in this period may be extended, more generally, to works of geography published c. 1700, which tend to be neglected. While the bulk of scholarly focus has fallen on sources related to the so-called Columbian thrust of 1492 to 1650, or to the ‘Saidian moment’ of 1750–1950 – the moment covered in Edward Said’s *Orientalism* (New York, 1978) – the pivotal interim period falls between the cracks and is, accordingly, the subject of this essay.

6 This essay takes a flexible view of early modern medicine, a category under which might be put not only the activities of physicians and surgeons, but also apothecaries and various others who concerned themselves with what we would call the ‘science of the human body.’ Useful reviews of the field can be found in Ole Grell and Andrew Cunningham (eds), *Health Care and Poor Relief in Protestant Europe, 1500–1700* (London, 1997); Lawrence Brockliss and Colin Jones, *The Medical World of Early Modern France* (Oxford, 1997); Mary Lindemann, *Medicine and Society in Early Modern Europe* (Cambridge, 1999); and the relevant chapters of Roy Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity from Antiquity to the Present* (London, 1997).

yet Kaempfer and Merian were of German extraction – a disproportionate number worked, in some capacity or another, in the context of the Netherlands' colonial enterprise. This is not especially unusual: the Dutch East India Company had many foreigners in its ranks, and, as a discipline, natural history generally required cooperative, international work. What *is* unusual is the degree to which the Dutch, otherwise, took the lead in producing and purveying exotic texts and images, amassing and selling tropical objects and specimens, even when these products derived from elsewhere – even when the originals came from German, French, English, or Spanish sources, yet could be processed and effectively marketed in Holland. What is ultimately striking, when these materials are collectively considered, is the overall role of the Dutch in manufacturing, translating, collecting, reproducing, packaging, repackaging, marketing and otherwise popularising exotica, which, if emanating from the Netherlands, circulated throughout Europe. If around 1700 you opened a volume on Malabar herbs, Persian medicine or Caribbean *naturalia*; if you collected specimens from the tropical East Indies, the tundra of Tartary or the jungles of Brazil; if you acquired prints depicting Japanese acupuncture, Chinese ginseng or American serpents, you did so with the assistance of the Dutch. The net result? By dint of this impressive quantity and great diversity of sources, the Dutch played a pivotal role in shaping Enlightenment Europe's perceptions of the exotic natural world.

Why the centrality of the Dutch and what is its significance? It would be tempting to ascribe such extensive descriptive reach to the comparably ample colonial reach of the early modern Netherlands – yet this would be inaccurate. In fact, the Dutch expansion of geography and natural history took place precisely during a period of Dutch colonial *contraction*. In the final decades of the seventeenth century, the Dutch East India Company began to cede relative market share in Asia to the English and French, a process that only intensified in the eighteenth century. Meanwhile in the Americas, the Dutch West India Company lost its Brazilian colonies in the mid-1650s following a catastrophic colonial war against the Portuguese; and, by the 1660s, it was made to forfeit its other major colony, New Netherland, to the English, who rechristened the settlement 'New York'.⁷ Yet Dutch-produced works only multiplied in the subsequent decades. Willem Piso – to cite but one example – published his magnum opus on South American *naturalia* only after the Dutch had vacated Brazil.⁸ Paradoxically, then, the Netherlands emerged as Europe's leading describer of the exotic natural world at the very moment at which it *declined* as a

7 On affairs in the East, see Femme S. Gaastra, *De geschiedenis van de VOC* (Zutphen, 1991); and Jaap R. Bruijn and Femme S. Gaastra, 'The Dutch East India Company's Shipping, 1602–1795, in a Comparative Perspective', in Jaap R. Bruijn and Femme S. Gaastra (eds), *Ships, Sailors and Spices: East India Companies and their Shipping in the 16th, 17th and 18th Century*, NEHA-Series III, no. 20 (Amsterdam, 1993), pp. 177–208, which makes a persuasive case for the relative decline, from the late seventeenth century, of the Dutch in Asia. On the West, see Henk den Heijer, *De geschiedenis van de WIC* (Zutphen, 1994); and Pieter Emmer and Wim Klooster, 'The Dutch Atlantic, 1600–1800: Expansion Without Empire', *Itinerario* 23 (1999): 48–69, which dates the Republic's Atlantic decline quite precisely to the final decades of the seventeenth century.

8 Willem Piso et al., *De Indiae utriusque re naturali et medica libri quatuordecim* (Amsterdam, 1658).

leading player in Europe's colonial world. Equally remarkably, the Dutch produced many of the most popular, sought-after materials that engaged with the non-European world – natural histories, to be sure, yet also other genres of geography engaged with the exotic world – and peddled these successfully to the other, emerging colonial powers, particularly England and France. As they ceded their colonial empire, in short, the Dutch gained an empire of colonial geography. This go-between role controverts the accepted calculus of postcolonial theory. Contrary to Foucault, those in the business of making knowledge – in this case, medical and natural-historical knowledge – were not those directly in possession of colonial power. Or to phrase this in Saidian terms, those who described exotic *naturalia* were not those with paramount hegemony over the imperial domains which they described.⁹

The paradox, or perhaps contradiction, of exotic natural history c. 1700 suggests the need to re-evaluate those reflexively invoked formulae of colonial theory. It also suggests the advantages of taking a closer look at the ways early modern medical knowledge and natural history were produced and how these processes pertain to colonial practices. The present essay derives from a larger project on exoticism and colonialism in the early Enlightenment, an inquiry into the ideological contours of geography and the brand of early modern globalism that it expressed. Imperial programmes of expansion have long been linked to processes of geographic description, the latter deriving, it is generally argued, from the political and rhetorical imperatives of the former. Such arguments commonly affiliate the representation of imperial lands with their control, and, in the process, elide distinctions between 'local' and 'universal' knowledge, to adopt the phrasing of the French sociologist of science, Bruno Latour.¹⁰ In the context of natural history (or geography), 'local knowledge' indicates the relatively idiosyncratic manner in which a specific community of readers or viewers assimilates knowledge of the world. It is place and time specific, and it can be understood to reflect a particular and perhaps provincial ideological perspective.

One assumes, for example, that British representations of its colonies in the second half of the eighteenth century reflect a British imperial agenda – which is the very sensible argument made by Beth Tobin regarding imperial landscape painting

9 The theoretical literature on postcolonial geography is vast, yet see, most essentially, Michel Foucault, *The Order of Things: An Archeology of the Human Sciences* (London, 1970); Foucault, *Power/Knowledge: Selected Interviews and Other Writings*, ed. Colin Gordon, trans. Colin Gordon et al. (New York, 1980); Edward Said, *Orientalism*; and Edward Said, *Culture and Imperialism* (New York, 1993). In referring to the immense surge of geographic production that he dated from the late eighteenth century to the mid twentieth century – from a period that follows the one tracked by this study – Edward Said spoke of an 'epidemic' of geography. His telling term of choice – modern geography as disease – speaks to Said's dim view of European geography's contribution to colonial history. It also points, however, to the presumed connections between the production and consumption of these sources, which Said left unexamined. The production of 'Orientalism', in his analysis, is located only vaguely in 'Europe', an imprecision that this essay seeks to rectify, if for an earlier period of geography.

10 Bruno Latour, *Science in Action: How to Follow Scientists and Engineers through Society* (Cambridge, MA, 1987), especially chapter 6, 'Centers of Calculation', pp. 215–57.

and by John MacKenzie, more generally.¹¹ One also assumes that contemporary French versions of the colonial world would hardly match English ones, since the French had reasons to see fiercely contested landscapes in strategically different ways – as David Philip Miller and Peter Hanns Reill point out in their study of overseas scientific expeditions, and as Londa Schiebinger and Claudia Swan argue in their study of colonial botany.¹² Religious and confessional antagonisms in this period only intensified this habit of viewing the world differently, since faith could profoundly influence one's view of nature and geography – as Natalie Davis has demonstrated in her study of the one-time Labadist and superb naturalist Maria Sibylla Merian.¹³ By contrast, 'universal knowledge' is Latour's term for widely accepted, broadly circulated systems of knowledge. Universal knowledge, to a greater degree than local knowledge, spans religious and political divides. It is not contested by competing local interests, it tends to be uncontroversial (at least for its intended audience), and it becomes ultimately normative. The products of Dutch natural history of this period fall under the category of universal knowledge – from a European perspective at least. Translated into multiple languages, peddled across national boundaries, imitated in London, Paris and Berlin alike, they possessed certain attractive qualities that defied particular colonial prerogatives. They were wildly popular. To rephrase the question, then: what is it about Dutch natural history c. 1700 that made it so appealing and so formative, it should be emphasised, to the genre of natural history as it developed at the dawn of the age of empire?

The single-word answer I would like to propose is 'exoticism' – an admittedly vague descriptor that will be used to characterise the style of these sources – and my goal for this essay is to place that deceptively simple term in its historical context. This will be done by analysing the sources of colonial natural history in the late seventeenth and early eighteenth centuries and endeavouring to account for their wide success. The title of this essay, 'Imperfect Chaos', borrows from the German-born, yet Dutch-sponsored, naturalist Georg Rumphius, who used the expression to describe the state of nature in the tropics – or at least the state of the tropical flora and fauna that he delivered, in textual form, to an ample number of early modern consumers.¹⁴ One can only imagine what 'perfect chaos' would entail, yet Rumphius – who composed a spectacular herbal, which went on to become the medical *vade mecum* for the East Indies, and authored an equally remarkable volume on tropical marine life – enlisted the concept of 'imperfect chaos' to underscore the haphazard,

11 Beth Fowkes Tobin, *Picturing Imperial Power: Colonial Subjects in Eighteenth-Century British Painting* (Durham, NC, 1999); and John M. MacKenzie (ed.), *Imperialism and the Natural World* (Manchester, 1990).

12 David Philip Miller and Peter Hanns Reill (eds), *Visions of Empire: Voyages, Botany, and Representations of Nature* (Cambridge, 1996); and Londa Schiebinger and Claudia Swan (eds), *Colonial Botany: Science, Commerce, and Politics in the Early Modern World* (Philadelphia, PA, 2005).

13 Natalie Zemon Davis, *Women on the Margins: Three Seventeenth-Century Lives* (Cambridge, MA, 1995).

14 Georgius Everhardus Rumphius, *Herbarium amboinense / Het amboinsche kruidboek*, Joannes Burmannus (ed.), 6 vols (Amsterdam, The Hague, Utrecht, 1741–50), sig. ***r.

digressive, often bric-a-brac quality of those works on exotic *naturalia* that he and others packaged for European consumers. The sources of tropical medicine from this period – the natural histories, engraved prints, medicinal gardens and collections of curiosities produced in or derived from Holland in the years around 1700 – share this elusive quality. They merit our attention, since their success at the dawn of the Enlightenment would shape the production of colonial texts and images for years to come. To understand the nature of this exoticism, this essay follows a fairly straightforward strategy of inquiry, reviewing the 'what' and 'where', and then 'how' and 'why', of Dutch tropical natural history, focusing on the period spanning 1660s through the 1730s. It aims to account for the popularity of these products, the rationale of their presentation, and the broader influence they enjoyed in the age of empire.

Global Nature (Made in Holland)

To begin with the 'what' and 'where': The *decennium mirabilis* of exotic natural history, located by David Freedberg in Holland at the turn of the eighteenth century, witnessed a phenomenal outpouring of works related to the flora, fauna and medical practices of the Indies, East and West alike. Freedberg points to the 10-year period from 1695 to 1705, during which some truly spectacular products of natural histories rolled off the presses: Reede tot Drakenstein's 12-volume *Hortus Indicus Malabaricus*; Jan and Caspar Commelin's superb study of the rare and exotic plants of the Amsterdam medical gardens, the *Horti medici Amstelodamensis rariorum tam Orientalis, quam Occidentalis Indiae*; Maria Sibylla Merian's stunning *Metamorphosis insectorum Surinamensium* (see Fig. 8.1); Georg Rumphius's warm-water 'curiosity cabinet', the *Amboinsche rariteitkamer*; and many more.¹⁵ Yet a significant number of equally impressive sources appeared both before and after this date, ranging from Piso's scholarly volume on tropical Americana, *De Indiae utriusque re naturali et medica*, an Elzevier production of 1658 (by which year the volume also included tropical Asia); to Albertus Seba's 1735 *Locupletissimi rerum naturalium thesauri*, a four-volume 'treasury' (as it was known) that illustrated and annotated Seba's magnificent collection of exotic plants, shells, and animals.¹⁶ These two grand *opera* nicely bookend a period during which numerous outstanding (in this case, printed) works debuted, which spanned regions, species, and categories of natural wonder. Looking east, for example, was Louis Renard's *Poissons, écrivisses et crabes* (see Fig. 8.2), a sumptuous, hand-coloured masterpiece printed in a limited 100-copy run (a third of which were shipped to eager buyers in London). Looking west was Charles de

15 Hendrik Reede tot Drakenstein, *Hortus Indicus Malabaricus*, 12 vols (Amsterdam, 1678–93); Jan Commelin, *Horti medici Amstelodamensis rariorum tam Orientalis, quam Occidentalis Indiae, aliarumque peregrinarum plantarum*, 2 vols (Amsterdam, 1697); Maria Sibylla Merian, *Metamorphosis insectorum Surinamensium, ofte verandering der Surinaamsche insecten* (Amsterdam, [1705]); and Georgius Everhardus Rumphius, *D'Amboinsche rariteitkamer* (Amsterdam, 1705).

16 Albertus Seba, *Locupletissimi rerum naturalium thesauri accurata descriptio, et iconibus artificiosissimis expressio, per universam physices historiam*, 4 vols (Amsterdam, 1734–35, 1758–65). For Piso, see note 7 above.



Fig. 8.1. 'Coral tree and emperor' in Maria Sibylla Merian, *Metamorphosis Insectorum Surinamensium* (Amsterdam, [1705]).

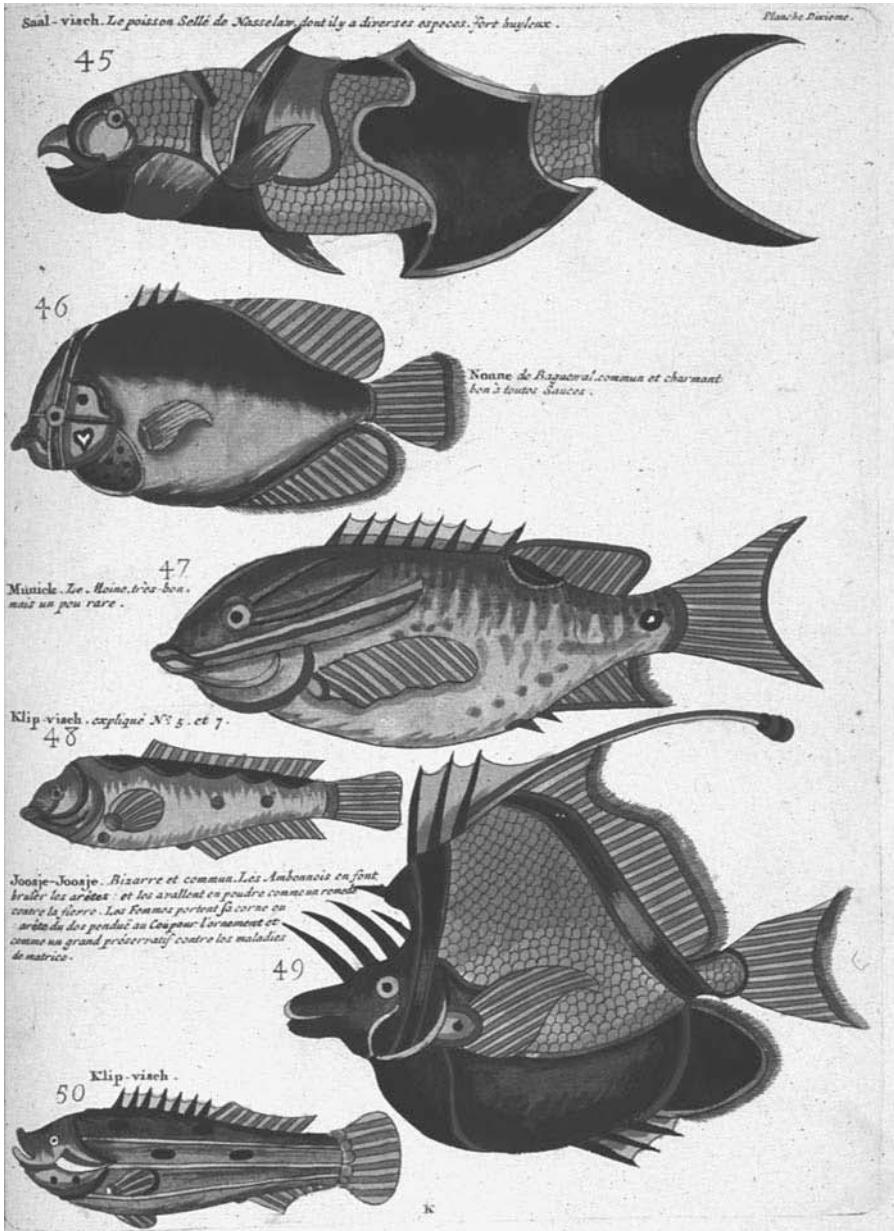


Fig. 8.2. ‘Planche Dixieme’ in Louis Renard, *Poissons, écrivisses et crabes de diverses couleurs et figures extraordinaires, que l’on trouve autour des Isles Moluques et sur les côtes des Terres Australes*, 2 vols (Amsterdam, 1718).

Rocheftort's *Histoire naturelle et morale des Îles Antilles de l'Amerique*, a French-composed, yet Holland-produced, volume that served as the leading authority on Caribbean *naturalia* until Hans Sloane published on the topic. And looking globally was the Breynius family's studies of exotic plants: the *Exoticarum aliarumque minus cognitarum plantarum* of Jacobus Breynius; and the *Dissertatio botanico-medica* by Johannes Philippus Breynius, the son of Jacobus and a leading authority on Chinese ginseng and other medicinal plants of the extra-European world.¹⁷

Printed volumes of Dutch natural history demonstrate impressive range in other ways, as well. They offer quality and quantity, variety no less than volume. Many of these works come under the rubric of 'herbals' – studies of exotic flora, with an emphasis on plants with medicinal use; quite a few focus on tropical fauna, showing how the animal kingdom (serpents, for example) contributed to processes of healing; and some offer a combination of the two. Yet texts dealing with natural history, and with exotic medicine more specifically, were delivered in generic geographies, too. These tended to be vast, sprawling affairs, which included significant portions dedicated to exotic plants and foreign medical practices. Once again, the period around 1700 saw a dramatic upsurge in production. The works of Amsterdam printers, especially the indefatigable Jacob van Meurs, stand out: immense, lavishly illustrated, folio volumes on Africa, Asia and the Americas; regionally oriented works on the Near East, Far East and Mogul Empire; and numerous 'mixed' tomes, which happily combined data that crisscrossed the globe, collapsing their descriptive hodgepodge into the indeterminate category of 'the Indies'. An astonishing number of van Meurs' titles came from the hand of a single author, the Utrecht-trained physician Olfert Dapper, who composed thousands of pages of text without, apparently, ever leaving the comfort of his Amsterdam home. All of Van Meurs' products, as well as most other works of geography churned out by Dutch publishers of this period, were distributed widely and translated strategically, invariably into French and German, and commonly into Latin. Van Meurs' so-called atlases – this was the term used to describe those copiously illustrated geographies of the day, which combined word and image, along with plentiful maps – reached English audiences by special arrangement with the Royal Geographer, John Ogilby, a dancer-turned-printer who

17 Louis Renard, *Poissons, ecrivisses et crabes de diverses couleurs et figures extraordinaires, que l'on trouve autour des Isles Moluques et sur les cotes des Terres Australes*, 2 vols (Amsterdam, 1718); Charles de Rocheftort, *Histoire naturelle et morale des Iles Antilles de l'Amerique* (Rotterdam, 1658); Jacobus Breynius, *Exoticarum aliarumque minus cognitarum plantarum centuria prima, cum figuris aeneis summo studio elaboratis* (Gdansk?, 1678) (and bibliographic suspicion for J. Breynius's volume suggest a Dutch publication); Johannes Philippus Breynius, *Dissertatio botanico-medica, de radice gin-sem, seu nisi et chrysanthemo bidente zeylanico acmello dicto* (Leiden, 1700).

Especially in the case of Rocheftort, one sees how the origin of the text – composed in this case by a Walloon theologian – may have had little to do with its afterlife as book. The *Histoire naturelle* as printed in the Holland (and Holland-derived) editions was a best-selling and broadly appealing natural history which skimmed only lightly over the religious discord in the West Indies. See, on this point, Everett C. Wilkie, Jr, 'The Authorship and Purpose of the *Histoire naturelle et morale des îles Antilles*,' *Harvard Library Bulletin*, 2nd ser. (1991): 26–84.

could hardly match Van Meurs' level of production and was therefore dependent on him (and other Amsterdam publishers) for plates and texts.¹⁸ The firm of Van Someren – a sometime collaborator with the atelier of Van Meurs – also merits mention, as does the Leiden-based printer-cum-geographer, Pieter van der Aa, who produced dozens of widely printed titles in the field. These included the magnificent *Galérie agréable du monde*, a 29-volume tour de force of exotic description, which was in no need of translation, since the entire, massive work consisted of nothing but dazzling pictures.¹⁹

Indeed, much of the knowledge of the exotic world came packaged in printed form, which did the rounds in both Latin and vernacular editions, thereby cutting a wide swathe among readers of Europe. Yet there were also other means of disseminating the natural history of the distant world. Material objects in the form of specimens – flora, of course, yet also fauna in various preserved states and the hardened remnants of marine life that are shells – were another important medium of exotica, and here, too, producers in Holland played a disproportionately large role in filling the market. Many of the Dutch-produced books were in fact based on collections, and, in publishing them, authors (or more likely printers) intended to circulate in literary form reproductions of material objects. Thus, Jan Commelin not only described the Amsterdam medical *hortus*; he also allowed readers to take a virtual tour (as it were) by his inclusion of scores of meticulously engraved reproductions of the exotic specimens of the garden. Seba did the same with his personal collection of *naturalia*, and in this way naturalists from across Europe could enjoy the fruits of the great apothecary's far-flung labours without the expense of a trip to Amsterdam. Many did make the trip, to be sure, and they came away with more than just an impression of these natural riches. Grand Tourists such as the Grand Duke Cosimo III de' Medici came, saw and obtained the cabinets of Holland, raiding any and all available assemblages of exotica, which Cosimo hauled with him back to Florence. In this way, Peter the Great acquired the contents of Seba's cabinet (1716) and the collection of Frederick Ruysch (1717), the great Amsterdam anatomist and a leading figure in the early Enlightenment republic of medical letters. (Both collections can still be seen, in only slightly modified forms, in the *Kunstkamera* of St Petersburg.) The most portable collectibles were shells and minerals, and the Dutch did a brisk

18 The bibliography here is immense. On the production of Dapper, see 'Ouvrages d'Olfert Dapper', in Laurence Husson et al., *Objets interdits* (Paris, 1989), pp. 82–4; on the output of Arnoldus Montanus, another author in Van Meur's stable, see Reinier Hesselink, 'Memorable Embassies: The Secret History of Arnoldus Montanus' *Gedenkwaerdige Gesantschappen*', *Quaerendo* 32 (2002): 99–123, which contains references to other bibliographic studies; and on Ogilby, see Katherine S. van Eerde, *John Ogilby and the Taste of His Times* (Folkestone, 1976). A useful, if incomplete, reference work is P.A. Tiele, *Nederlandsche bibliographie van land- en volkenkunde* (Amsterdam, 1884).

19 Pieter van der Aa, comp., *La Galérie agréable du monde*, 66 parts in 29 vols (Leiden: Pieter van der Aa, [c. 1730]). See also the entry in Tiele, *Nederlandsche bibliographie*, which includes data on known copies of a work that is very rare within Dutch collections and evidence of the book's wide distribution. On the vast publications of Van der Aa, many of which related to geography and natural history, see P.G. Hoftizer, *Pieter van der Aa (1659–1733): Leids drukker en boekverkoper* (Hilversum, 1999).

business in both. Tropical shells in and of themselves enticed collectors – Jan Swammerdam had a fine, working collection – though aficionados might also seek embellished samples that bore exquisite renderings of the exotic flora and fauna – finely worked turbo and nautilus shells, for example, decorated with rare creatures of the Indies. The Dutch also trafficked in paintings of shells, paintings of cabinets that housed these shells (see Fig. 8.3) and paintings of the collectors themselves, who proudly displayed their exotic wares.²⁰

A final note on collections and their circulation. Printed books appeared in multiple translations and in various editions – many of which were deluxe, though many others were not – and this guaranteed their extensive inroads into the increasingly literate populations of early modern Europe. (And since many of these sources placed a premium on their pictorial content, an argument might further be made that a less-than-fully-literate audience would have enjoyed these works, as well.) Yet it is also evident that exotica delivered in other media, too, exercised vast appeal. Consider the so-called Indian cabinet of Paul Hermann, a well respected Leiden professor of medicine, who assembled shells, minerals, and preserved animals from his travels in Africa, India and Sri Lanka. Much of this outstanding collection went in auction to James Petiver, who was acting on instructions of Hans Sloane, who was himself a keen collector of Holland-produced exotica. Sloane also bought Dutch books, Dutch maps and even Dutch manuscripts – those of Engelbert Kaempfer, for example, which describe the healing techniques of Edo Japan – and in this way, the products of Dutch natural history spread to England and helped to form the basis of the British Museum. Likewise, a large cache of paintings by the landscape artist Frans Post, who specialised in meticulous renderings of Brazil's tropical flora and fauna, was presented by Johan Maurits of Nassau-Siegen to Louis XIV of France. This not only afforded the French court incomparable images of South American nature; it also meant that the collections of the Louvre would ultimately have a rich and influential store of Dutch-designed iconography of the tropics.

Dutch sources, more generally, travelled broadly and consequentially. Through the sale of exotic *naturalia*; through the prodigious publication and translation of natural histories and geographies of the non-European world; and through the assiduous reproduction of foreign specimens in prints, paintings and the decorative arts of c. 1700, the Dutch played an outstanding role in conveying to Europe the shape and form of the exotic natural world.

20 Patterns of collecting are surveyed in Ellinoor Bergvelt et al., *De wereld binnen handbereik: Nederlandse kunst- en rareitenverzamelingen, 1585–1735*, 2 vols (Zwolle, 1992); Ellinoor Bergvelt, *Schatten in Delft: Burgers verzamelen 1600–1750* (Zwolle, 2002); and, on the St Petersburg materials, see Renée E. Kistemaker et al., *The Paper Museum of the Academy of Sciences in St. Petersburg c. 1725–1760: Introduction and Interpretation* (Amsterdam, 2005). On still lifes, see Alan Chong and Wouter Kloek (eds), *Still-Life Painting from the Netherlands 1550–1720* (Zwolle, 1999).



Fig. 8.3. Cornelis de Man, *The Curiosity Dealer*, c. 1700?. Musée Dapper, Paris.

Exotic Pleasures

On to the 'how' and 'why', which, not surprisingly, are closely related. Dutch-produced exotica from this period are distinguished both by the media of their delivery and the message which they convey, and, in many ways, the media is the message. The very amplitude of materials dedicated to exotic data from this period is highly impressive, and it attests to the strong demand for renderings of foreign *naturalia* and medical knowledge; there was a substantial market for this sort of thing. As

with all markets, suppliers endeavoured to meet demand, yet they also played a part in shaping that demand. Dutch manufacturers, accordingly, presented their images of exotic nature and their reports of foreign medicine in ways that were meant to satisfy their target audience, foster further interest in their audience (and thereby stimulate greater demand), and frame the manner in which their audience consumed the 'supply' of exotica. Evidence of such efforts is perhaps easiest to see in the most explicit sources, namely books. Dutch printed sources of this period – including volumes on foreign flora and fauna, collections of engraved prints that highlight the extra-European world, geographies and travel narratives that contain extensive passages on the *naturalia* and medical practices of the globe – can be distinguished by their bibliographic format, their aesthetic 'look', their organisational principles, and the thematic message which they communicate of the 'delight', or 'pleasure', of exotic natural history. Dutch printers in the business of exotica offered products that, first, were *not* meant to be read per se; second, invited from their consumers a particular kind of looking; and, third, even while dealing with the bumpy terrain of imperial and colonial rivalry, studiously avoided the controversies over which other such texts were apt to stumble. Dutch producers of exotic natural history c. 1700 specialised in stupendously attractive volumes, richly illustrated and minimally annotated except in their framing, prefatory material. These were commonly jumbled affairs that nurtured an 'imperfect chaos'. They invited readers to skim, rather than methodically scrutinise, their contents. The manufacturers of these materials enticed consumers with products that were above all pleasurable, a strategy well summed up by the clever title of Engelbert Kaempfer's collection of 'curious scientific and medical observations' of the extra-European world, *Amoenitatum exoticarum: exotic pleasures*.²¹ They offered, in short, coffee-table books at the dawn of the age of coffee. In promoting these volumes, moreover, the Dutch created an innovative new vehicle for descriptions of the non-European world, adopting a formula and a style of presentation that we have come to recognise by the term 'exoticism'.

The architects of these works – the authors, naturally, yet also (and perhaps even more so) the editors, engravers and printers – astutely packaged their products, and this can be discerned in both the form and content of the books. The outward appearance of Dutch natural histories and exotic geographies is striking: strikingly large, in the first place, and beautifully designed and lovely to look at, as well. Indeed, to grasp fully their impressive dimensions one must actually grasp them in hand; they are nearly unmanageable. Size does matter, when it comes to books; and the specimen of exotic natural history produced by the Dutch in this period is notably immense.²² It is also thick, both in terms of volumes per title and pages per volume, which make Dutch natural histories figuratively and literally weighty objects. Seba's *Thesaurus* is a massive folio in four volumes; Rumphius's *Herbarium amboinense*

21 Engelbert Kaempfer, *Amoenitatum exoticarum politico-physico-mediciarum fasciculi V, quibus continentur variae relationes, observationes & descriptiones rerum Persicarum & Ulterioris Asiae* (Lemgo, 1712).

22 For a modern equivalent, which neatly illustrates the persistent pairing of coffee-table books and geography, see the recently published 'largest book in the world' (5 × 7 feet opened), Michael Hawley, *Bhutan* (Cambridge, MA, 2003).

is a 1661-page, 695-plate doorstop; and Reede tot Drakenstein’s *Hortus Indicus Malabaricus* weighs in at a shelf-cracking (or trolley-busting) 12 volumes. Big books and big herbals are hardly an invention of the late seventeenth century, of course. The leading natural history at the turn of the seventeenth century, Carolus Clusius’s *Exoticorum libri decem* (1605), if but a one-volume folio, is not for the faint of heart. Still, there was a quantitative shift by the turn of the eighteenth century, when more works of these proportions, and of still more imposing proportions, came to dominate the market. The use of commercial language here is appropriate, since the Dutch expertly addressed the growing demand for volumes on the tropics. And (to double back to the category of collectibles) the Dutch also converted collections of exotic *naturalia* into commercially viable products. As Harold J. Cook has pointed out in a comparative study of Dutch and English medicine in this period, ‘collections of curiosities and knowledge about collectibles clearly had commercial value’, and Holland was the leading supplier in the field.²³ As the evidence of subscription lists, production runs and broad-reaching translations suggest, the Dutch also made big business of big books on tropical nature.

Once grasped and steadied in hand, these volumes are not so readily mastered, since their textual content can also present formidable challenges. Indeed, volumes of this genre are all but unreadable in the traditional sense of the word – and meant to be so insofar as their configuration is concerned. Physically large and awkward to handle, dauntingly detailed and sprawling in structure, Dutch natural histories and exotic geographies seem almost to challenge those who would systematically peruse them. They are built for browsing rather than reading, a result of their bibliographic design. As Nick Jardine and Marina Frasca-Spada have pointed out in their study of science and books, ‘[a book’s] material constitution – *mise-en-livre* – and the layout and typography – *mise-en-page* – [should be] recognized as crucial in recruiting readers and conditioning the way they read’.²⁴ This certainly applies to products of Dutch natural history. To compensate for their unwieldiness, they were packaged with substantial bibliographic apparatuses – ‘paratexts’, is the term used by the French critic Gérard Genette²⁵ – and these shaped the experience of ‘reading’ them. Detailed tables of contents, dozens of pages in length; extensive marginalia, which carry the reader’s eye along the stream of pages; multiple and elaborate indices; heavy-handed prefatory materials: all of these devices helped usher the putative reader – or better, ‘browser’ – through the volume. Rather than thorough reading, these products invited light skimming, which is precisely the advice offered by Rumphius, who recommended that his own tropical herbal be briskly ‘skimmed [*doorbladeren*]’.²⁶ Coffee-table books – to situate this phenomenon in a more

23 Harold J. Cook, ‘Natural History and Seventeenth-Century Dutch and English Medicine,’ in Hilary Marland and Margaret Pelling (eds), *The Task of Healing: Medicine, Religion, and Gender in England and the Netherlands, 1450–1800* (Rotterdam, 1996), pp. 253–70; quotation on p. 263.

24 Marina Frasca-Spada and Nick Jardine, *Books and the Sciences in History* (Cambridge, 2000), p. 2.

25 Gérard Genette, *Paratexts: Thresholds of Interpretation*, trans. Jane E. Lewin (Cambridge, 1997).

26 Rumphius, *Herbarium amboinense*, sig. **v.



Fig. 8.4. Frontispiece from Simon de Vries, *Curieuse aenmerckingen der bysonderste Oost en West Indische verwonderens-waerdige dingen* (Utrecht, 1682).

familiar frame of reference – are meant precisely not to be read, and the same can be said for exotic natural histories produced c. 1700.

Coffee-table books are meant to be consumed, nevertheless, and the experience of imbibing them is understood to afford a distinct kind of pleasure. If they do not invite the sort of disciplined perusal that one might associate with natural historical, medical or 'scientific', texts, they do have their charms (think *National Geographic*). Rumphius claims as much in his *Herbarium amboinense*, when he describes the 'imperfect chaos' of the raw material that he as author – and the reader, by extension – had to contend with. The haphazard hodgepodge of his subject leads him to identify the less than orderly manner of his book's presentation. Yet this is not so much an *apologia* as an invitation to enjoy the lush and variegated experience of the tropics. It is an appeal to an aesthetic of disorder – a pleasing, purposeful mixture of natural objects and geographic spaces – that was not uncommon in the natural histories of this period. Thus, the Dutch editor of the Caribbean naturalist, Charles de Rochefort, invokes the very same mix-and-match quality, which he identifies as a 'delightful variety of things'.²⁷ This is also what Sir William Temple, in reference to certain gardening styles that developed around this time, describes as a 'Beauty ... without any order or disposition of parts'; and what Frank Lestringant, in reference to another early modern chapter of geographic description, labels 'une beau désordre'.²⁸ It is the style employed, most plainly, in the swirling frontispieces of the natural histories themselves, the effect of which was to entice the consumer with the volumes' promise of a whirlwind tour of the tropics.

And this brings up perhaps the most important quality of tropical natural histories of c. 1700, namely their strongly graphic content. The 'look' of natural histories was emphatically pictorial. If these volumes invited brisk browsing rather than studious contemplation, this might be attributed to their abundant and splendid engravings. The bulk of the works appearing in this period – and this goes for the smaller and more 'popular' natural history publications, no less than the deluxe ('prunk') editions geared toward elite consumers – consisted overwhelmingly of plates, with minimal textual apparatus. Maria Sibylla Merian's *Metamorphosis*, typically, devotes a full-page engraving per specimen, with a measly paragraph (if that much) of accompanying exposition (see Fig. 8.1). Reede tot Drakenstein and Albertus Seba offer even less by way of explication, the graphic content all but subsuming the textual (see Fig. 8.5). And other works had no text at all beyond their minimal labels for the figures. Louis Renard's study of the fish of the East

27 Preface to Rochefort, *Histoire naturelle*, n. p.

28 Sir William Temple, 'Upon the Gardens of Epicurus', in *Miscellanea: The Second Part* (London, 1690), p. 58; see also Frank Lestringant, *L'Atelier du cosmographe: ou l'image du monde à la Renaissance* (Paris, 1991), p. 110. As Lestringant makes clear, an aesthetic of disorder was not unique to the period c. 1700 – yet it may have been more prevalent at that time than ever before and more influential in terms of the history of empire and exoticism. Years later, exploring the tropical Pacific, Bougainville would echo Rumphius et al. when he observed on the islands 'many prospects and beautiful landscapes, covered with the richest productions of nature, in that *beautiful disorder* which it was never in the power of art to imitate'. See Louis de Bougainville, *A Voyage round the World*, trans. John Reinhold Forster (London, 1772), pp. 244–5 (emphasis added).



Fig. 8.5. Plate 62 (vol. 1), in Albertus Seba, *Locupletissimi rerum naturalium thesauri accurata descriptio, et iconibus artificiosissimis expressio, per universam physices historiam*, 4 vols (Amsterdam, 1734-5 and 1758-65).

Indies comprised exclusively plates, with modest labelling (see Fig. 8.2); and Van der Aa's *Galerie agreable du monde* dispensed with words altogether. (Van der Aa's pictures, additionally, were engraved with *trompe l'œil* 'frames', a device that further enhanced their visual purpose and effect.) These were picture books, in sum, which overflowed with beautifully designed, superbly printed and often brilliantly coloured images of the exotic world.

Again, a case might be made that illustrated books, and natural histories in particular, existed long before the Dutch began to produce them so copiously in the final decades of the seventeenth century. Yet here one can point to shifts in terms of quality no less than quantity. First and most basically, there were many more picture books relevant to natural history in this later period than there had been before. Second, Dutch-generated volumes c. 1700 look appreciably different than earlier models, not least for the way they draw attention to their pictorial content. Earlier works of this genre – such as those of Gonzalo Fernández de Oviedo (see Fig. 8.6), Conrad von Gessner, Rembert Dodoens and Clusius²⁹ – used illustrations relatively sparingly and straightforwardly; there are fewer pictures per volume, and those images that do appear (generally, woodblock prints) tend to be comparably smaller in size and more perfunctory in style. Another obvious distinction is colour, or lack thereof. This is not the result of technological advances, since natural histories of the later seventeenth century were still coloured by hand, upon commission (just as books and manuscripts had been for centuries), but rather a reflection of production strategy. (And colour printing, it is worth noting, actually develops in this period, originally in a work of Dutch geography; yet it does not become widespread until the later eighteenth century).³⁰ Dutch printers c. 1700 pioneered a new form – almost a new genre – of natural history: large format books, with vast, often double-folio engravings that all but demanded colour and lured the readers' eye, inducing in him or her a new brand of engagement with the subject.

They did so, moreover, purposefully. 'No subjects stand more in Need of Illustration than these [exotic natural history and geography]', declared the preface to one such richly embellished work, which boasted (justly) of its superior pictures.³¹

29 All of these works – Oviedo's *De la natural hystoria de las Indias* (1526), Gessner's *Historia animalium* (1555–8), Dodoens's *Crujdeboek* (1554) and Clusius's *Exoticorum* (1605) – favour the textual over the graphic. Although they do carry illustrations, these tend to play a secondary and only modestly illustrative role in the scheme of the book.

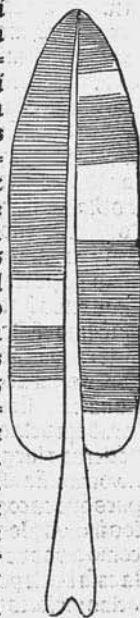
30 The first known work of colour printing was Cornelis de Bruyn's 'Voyage to the Levant', the Dutch and French edition of which appeared in colour: *Reizen van Cornelis de Bruyn* (1698) and *Voyages au Levant* (1700), both printed by H. van Krooneveld in Delft. There is one extant copy of the French colour edition, which is in the Universiteitsbibliotheek Amsterdam.

31 See J[ean]-F[rédéric] Bernard (ed.), *Ceremonies et coutumes religieuses des tous les peuples du monde*, 8 vols (Amsterdam, 1723–43), a tour de force of description on global religion and 'customs' – the latter defined broadly enough to include medical practices – which was full of splendid engravings by one of the leading graphic artists of the day, Bernard Picart. The work also appeared in French and English (quotation from *Ceremonies and Religious Customs of the Various Nations of the Known World*, 6 vols [London, 1733–7], vol. 4, p. viii).

Plantas y yeruas.

¶ Los aruoles
con que sefuel-
dan las quebra-
duras: y no me
determino si so-
n aruoles o plan-
tas.

nos: y es carnosa como el durazno saluo que tiene briznas como el car-
do: pero muy sotiles: mas es dañosa quando se continua a comer para
los dientes: y es muy gumosa: y en algunas partes los indios hazen vi-
no dellas: y es bueno: y son tan sanas q̄ se dan a dolientes: y les abre mu-
cho el appetite a los q̄ tienen hastio y perdida la gana del comer. ¶ Unos
aruoles ay en la ysla española espinosos: q̄ al parescer ningun aruol ni
planta se podria ver de mas saluajez: ni tan feo: y segun la maera dellos
yo no me labzia determinar ni dezir si son aruoles: o plantas: hazē vnas
ramas llenas de vnas pencas anchas y diformes o de muy mal pare-
scer: las quales ramas primero fue cada vna vna penca: como las otras
y de aq̄llas endureciēdose y alongándose salē las otras pencas: finalmē-
te es de manera q̄ es dificultoso de escriuir su forma: y para darse a entē-
der seria necessario pintarse para que por medio dela vista se cōprehen-
diēse lo que la lengua falta en esta parte: para lo q̄ es bueno este aruol o
planta es que masando las dichas pencas mucho y tēdi-
do aq̄llo a manera de emplasto en vn paño: y ligado vna
pierna o brazo con ello ay n̄ este q̄brada en muchos pe-
daços en espacio de quinze dias lo suelda: y jūta como si
nūca se quebrara: y hasta q̄ aya hecho su operacion esta
tan aferrada y asida esta medecina con la carne: que es
muy dificultosa dela despegar: pero assi como ha cura-
do el mal y hecho su operacion: luego ella por si misma se
aparta y despega de aquel lugar donde la auian puesto:
y deste efecto y remedio q̄ es dicho ay mucha espiencia
por los muchos q̄ lo han prouado. ¶ Ay assi mismo vnas
plantas q̄ los xpianos llamā platanos: los quales son al-
tos como aruoles y se hazen gruesos en el tronco como
vn grueso muslo de vn hombre: o algo mas: y desde aba-
xo arriba echa vnas hojas longuissimas y muy anchas
y tāto que tres palmos o mas son anchas: y mas de diez
o doze palmos de longura: las q̄les hojas despues el ay-
re rompe quedādo entero el lomo dellas. En el medio de
este cogollo en lo alto nasce vn raziño con quarenta o cin-
quenta platanos y mas y menos: y cada platano es tan
luego como palmo y medio: y dela grosseza dela muñe-
ca de vn brazo: poco mas o menos: segun la fertilidad de
la tierra donde nascen: porq̄ en algunas partes son muy
menores: tienen vna corteza no muy gruesa y facil de rō-
per y de dētro todo es medula: que desollado o quitada
la dicha corteza parece vn tuetano de vna caña de vaca



¶ Platanos.

Fig. 8.6. Gonzalo Fernández de Oviedo, *De la natural hystoria de las Indias* (Toledo, 1526).

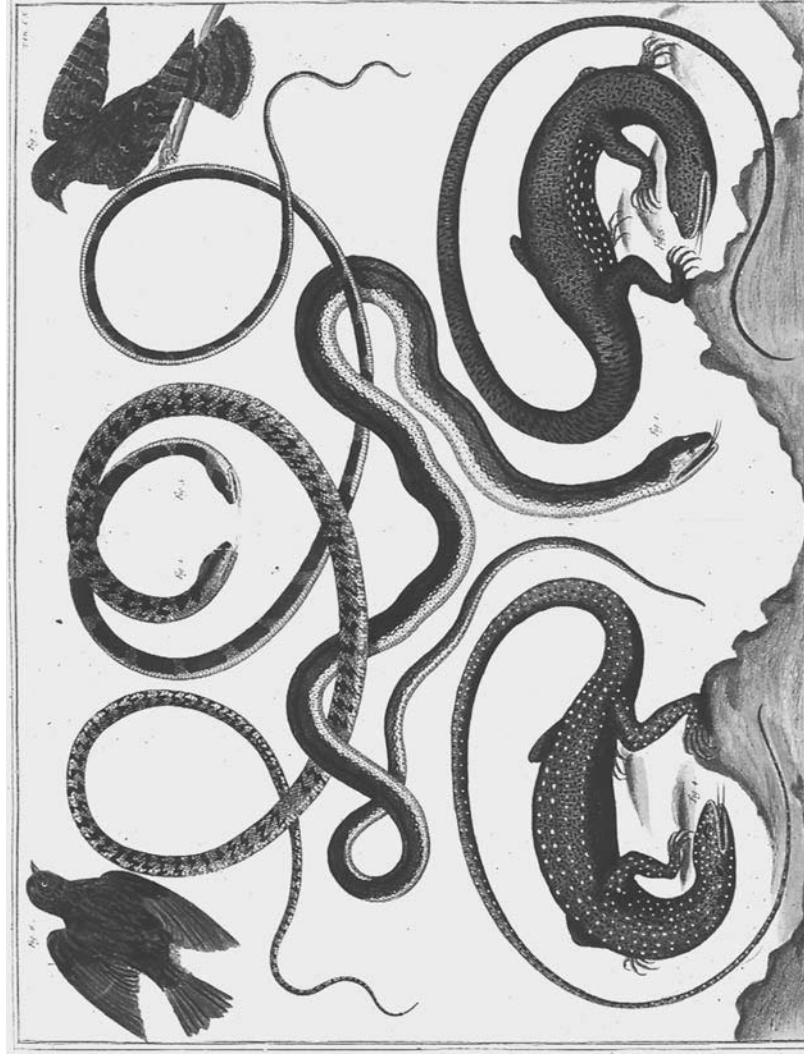


Fig. 8.7 Plate 112 (vol. 1), in Albertus Seba, *Locupletissimi rerum naturalium thesauri accurata descriptio, et iconibus artificiosissimis expressio, per universam physices historiam*, 4 vols (Amsterdam, 1734-5 and 1758-65).

The reproductions in Dutch natural histories are meant to impress. They tend to be almost as decorative as they are illustrative; and they call attention to their stunning beauty. Albert Seba's expertly engraved serpents (executed by a team of some dozen artists) contort with an unnatural, almost calligraphic loveliness. The creatures of Hendrik d'Acquet's 'Insecta et animalia colouribus ad vivum picta' were certainly not done 'ad vivum' and arguably not even in a naturalistic style. D'Acquet's bands of butterflies fly in tight formation, their colours artfully coordinated, and the flock artificially gathered from the distant climes of Europe, Asia and America.³² Aesthetics, in other words, trumped naturalism. In this regard it is fascinating to learn – as modern ichthyology will confirm – that the shades of marine life in Renard's *Poissons* are generally haphazard and literally fantastic. No matter: the colour is the thing in this deluxe edition, which was printed in a limited run of 100 copies and sold for a staggering 100 guilders per volume (a sum that would have consumed more than three months' salary of a naval surgeon working for the Dutch East India Company).

Renard's strategy surely partook of the commercial, yet that is only part of the story. Pictures allowed authors (and, just as critically, publishers) to avoid words and the disputation which the latter commonly provoked. Dutch natural histories were designed to attract the widest imaginable audience, to be as universally appealing and uncontroversial as possible; and they accomplished this, in part, by pleasing the reader's eye with delightful pictures. They were constructed to 'amuse' (to invoke Goldsmith, once again) rather than provoke, to grant pleasure rather than discord, and to reach out to Europe-wide audiences which still had raw memories of intra-continental conflict. In explaining why she kept the textual matter of her luxuriously illustrated books to a minimum, Maria Sibylla Merian contended that 'the contemporary world [namely, early-eighteenth-century Europe] is very delicate, and the feelings of the learned quite varied', which suggested to her a more simple, pictorial approach, to ensure the reader's 'pleasure and satisfaction'.³³ What sort of controversy did Merian have in mind? Scholarly, no doubt – the inhabitants of the late seventeenth and early eighteenth centuries certainly had their share of academic debates – yet also imperial and religious, two categories not unrelated in Enlightenment Europe. Rumphius himself experienced sectarian violence in his native Hesse, which was overrun during the Thirty Years War and induced him, in part, to seek employment overseas. Kaempfer came from a pious Protestant background, a fact that makes it all the more striking that his narrative of Japan declines to highlight the expulsion of the Catholics at the turn of the seventeenth century (a source of great religious contention at the time). For so many of the authors and editors of these works, comity was preferred to controversy, and the beauty of nature was made paramount.

32 Henricus d'Acquet, 'Insecta et animalia colouribus ad vivum picta, anno 1656, et sequentibus', 3 parts ([Delft, 1708]) (MS in the collection of the Koninklijk Instituut voor de Tropen, sig. RG-84); see esp. vol. 2, p. 22, where the illustrator mingles insects from the East and West Indies, whose colours happen to match; and vol. 2, p. 49 which blends, with great formal success, butterflies from Ireland and Curacao. Seba's snakes slither through the second volume of the *Thesaurus* (see note 15).

33 Merian, Preface to *Metamorphosis*, n. p.

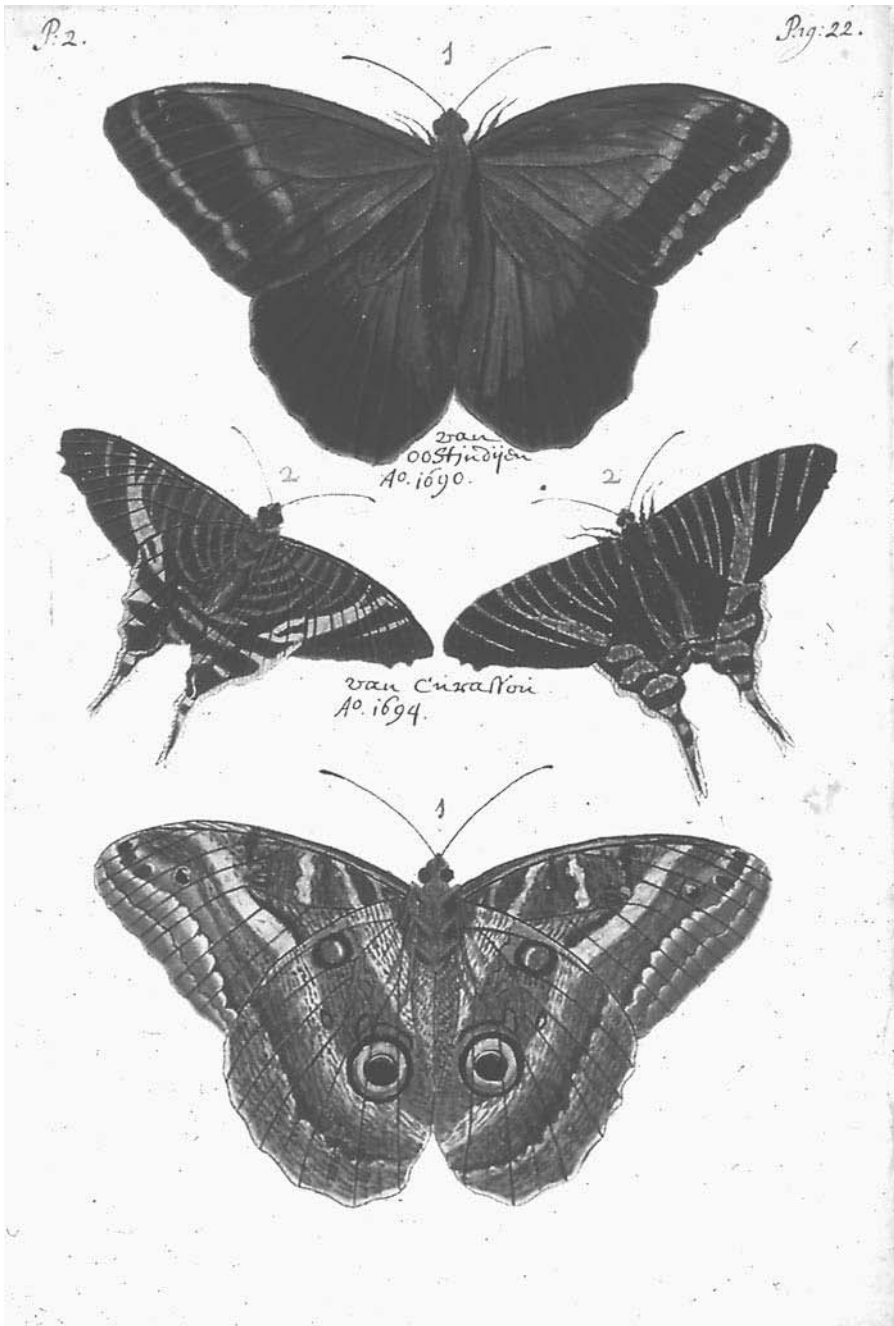


Fig. 8.8. Henricus d'Acquet, 'Insecta et animalia coloribus ad vivum picta, anno 1656, et sequentibus', 3 parts ([Delft, 1708]) [book 2, no. 22].



Fig. 8.9 Title page from Gonzalo Fernández de Oviedo, *De la natural hystoria de las Indias* (Toledo, 1526).

The priority of pleasure and delight over polemic and discord: this was the message of Dutch natural histories c. 1700, and, once again, a comparison with earlier moments of natural history is revealing. The preceding century and half of exotic natural history and medicine – from the imperially charged decades following 1492 through the waning of this original colonial moment (and of Habsburg hegemony) by the middle decades of the seventeenth century – saw the publication of a series of expressly political, pronouncedly provincial and emphatically 'local' (in the Latourian sense) surveys of nature and medicine abroad. This is perhaps most evident in the early works on American *naturalia*, which appeared in the decades following Columbus's voyages. The first major volume on nature in the New World, Oviedo's *De la natural hystoria de las Indias* (1526), was conceived (as Jesús Carillo has recently described it) 'as imperial propaganda',³⁴ In fact, the entire Spanish project of exotic natural history in the sixteenth century – García da Orta's treatise on the 'drugs and medicines' of the East Indies, Nicolás Bautista Monardes' work on medicinal plants in America and so on – can be accurately described as ideological, a rhetorical effort to attach the extra-European natural world to the Habsburg imperial agenda. Much the same goes for sixteenth-century French forays into the field, when the royal cosmographer, André Thevet, described nature in 'la France antarctique' with a distinctly Gallic accent. Both Oviedo's and Thevet's works were emblazoned on their covers with royal (or imperial) coats of arms; both endeavoured to convert exotic landscapes into royal gardens (think of the appropriation of the pineapple and sunflower as 'kingly' plants)³⁵; and both made vigorous, polemical cases for the natural rights of their patrons to the natural world of the tropics.³⁶ This ideological strategy is pursued by the Dutch, too, in the first half of the seventeenth century, when Johannes de Laet composed an unabashedly patriotic preface to the *Historia naturalis Brasiliae*, which appeared, in 1648, at the height of the Republic's colonial struggle against Portugal.

Religion played a role as well. De Laet, a hard-line Calvinist and member of the Synod of Dordrecht, tossed faith into the mix when he promoted Dutch prerogatives

34 Jesús Carillo, "'The World is Only One and Not Many': Representations of the Natural World in Imperial Spain", in Chiyo Ishikawa (ed.), *Spain in the Age of Exploration, 1492–1819* (Seattle, WA, 2004), pp. 139–57.

35 Merian in fact opens her *Metamorphosis* with the pineapple, yet manages to strip it of its by-now clichéd political status by calling it 'the principal of all edible fruits' – not, in other words, an emblematic 'royal' fruit to be matched to one or another European monarch or patron.

36 Further examples of this brand of 'imperial' geography and natural history are plentiful: Alonso de Santa Cruz's studies made for Charles V; Battista Agnese's cartographic work for Philip II; Francisco López de Gómara's *La historia general de las Indias* (which carries a stridently Habsburg frontispiece); Guillaume Postel's rendering of the exotic world for the Valois monarchs of the late sixteenth century (as discussed by Frank Lestringant); John Dee's promotion of an imperial 'Britannia' and so on. Even such a peripheral and 'belated' aspirant to imperial politics as England pursued this ideological course in such works as Richard Hakluyt's *Principall Navigations* (1589) and in the early-seventeenth-century instalment of this imperial 'epic' undertaken by Samuel Purchas, *Hakluytus Posthumus, or Purchas his Pilgrims* (1624–6).

in Brazil: *naturalia* would fare better under a Protestant regime than a Catholic one, since papists were ‘tyrants’ (in the cant of the day). That colonial contests were waged on religious terms should not come as a surprise. As Patrick Collinson has recently remarked, the Reformation was fought as an all-out civil war, which also extended overseas – and even to studies of exotic *naturalia*.³⁷ Yet by the later seventeenth century, Dutch volumes on tropical medicine and nature shifted their emphases, ignoring the touchy topic of confessional difference. Religion was neutralised as a divisive trope; tropical nature was promoted as a site of inquiry beyond the reach of rivalry and discord. When a Dutch publisher reissued De Laet’s volume in the second half of the century (as *De Indiae utriusque re naturali et medica*), he replaced the patriotic preface with another in praise of global wonders. This is also the thematic tack taken by Rumphius in the *Herbarium amboinense*, the preface of which bids the reader to enjoy the volume’s depictions of the Lord’s handiwork. Rumphius extends his invitation to readers across Europe – not just, as might once have been the case, to Protestants in the Netherlands – asking them to ignore the often fractious, colonial backdrop of exotic *naturalia*. He explicitly distinguishes his work on nature from other texts of a more political cast. Indeed, Dutch studies of tropical medicine and exotic nature made a point of leapfrogging over confessional debates and imperial politics. They sought to render the exotic world, as Merian and her colleagues repeatedly phrase it, a locus of ‘pleasure’.

The theme of pleasure is invoked again and again in Dutch works of exotic natural history – as if readers had to be made aware of the delight of natural landscapes and steered away, rhetorically at least, from the discord of colonial lands. The message could be conveyed subtly in prefatory materials, as in Merian’s and Rumphius’s volumes. Or it could be broadcast directly on the title page – as in Kaempfer’s *Amoenitatum exoticarum politico-physico-mediarum*, or Dr Dapper’s anthology of Asian miscellany, *Delitiae Orientales* (1712). More generally, the genre of natural history produced by the Dutch c. 1700 was crafted to ‘delight’: to appeal broadly and to entice a Europe-wide audience, which might otherwise have not shared texts or views on the colonial natural world. Towards that end, it was designed in ways calculated to shape patterns of reception – large formats, enhanced graphics, diminished texts, liberal use of paratexts. And it was presented using rhetorical tropes meant to convert contested terrains of tropical *naturalia* into topoi of tropical delight. The structure of these texts encouraged browsing rather than careful contemplation; the message elevated a new, highly decorative, almost aesthetic approach to natural history. Another Dapper vehicle offers still another collection of tropical bric-a-brac, *Dapperus exoticus curiosus* (1717 and 1718), a chaotic hodgepodge that demonstrates, in this case, the preference for the ‘curious’ over the controversial.

Note that Dapper’s title, along with Kaempfer’s, invokes a variation of that not terribly common word ‘exotic’, which had previously been used in a more strictly technical sense to refer to non-native flora and fauna, or foreign medical practices. By the turn of the eighteenth century, while ‘exotic’ continued to designate foreign

37 Patrick Collinson, ‘Part of the Fun of being an English Protestant’, *London Review of Books*, vol. 26, no. 14 (22 July 2004).

techniques and nature, it also had come to mean a *style* of presenting that nature. Dutch natural histories of this period – which effectively became Europe’s most widely circulated record of extra-European nature and medicine at the dawn of the Enlightenment – promoted this new style and conveyed this innovative message of tropical exotica. And this message, it should be also noted, does not easily accord with our sense – *pace* Svetlana Alpers³⁸ – of a Dutch movement towards rising naturalism, disinterested description and progressively better ‘science’. It does suggest something equally remarkable, however, and that is a distinctive moment of tropical natural history, foreign medicine and colonial geography that might be understood as the dawn of modern exoticism.

38 Svetlana Alpers, *The Art of Describing: Dutch Art in the Seventeenth Century* (Chicago, IL, 1983).

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Johann Anton von Wolter (1711–87): A Bavarian Court Physician between *Aufklärung* and *Reaktion*?

Claudia Stein

Johann Anton Edler von Wolter (1711–87) was the favourite physician of Maximilian III Joseph of Bavaria (r. 1745–77), one of Germany's most powerful Catholic rulers with an interest in enlightened ideas.¹ As few of von Wolter's personal papers have survived what we know about him has been largely drawn from contemporary accounts. The problem with these, however, is that contemporaries profoundly disagreed on his persona.² Some stressed that he was one of the founders and an active member of the Bayerische Akademie der Wissenschaften (1759)³ and praised his allegedly endless pursuit of the progress and happiness of mankind on the basis of reason and the economic well-being of his patron's state. He was one of the 'pillars of today's medical art' – indeed 'the Bavarian Hippocrates'. Others, however, saw him as slick courtier, extraordinarily selfish, completely ignorant of medical theory and incompetent at medical practice, and far more interested in financial gain and personal fame than the care of his patients. His membership in the Akademie, they insist, was nothing but an excuse to support and foster the careers of his true friends, Bavaria's most 'reactionary' group, the Jesuits. Like them, his tricks and sweet talk lured even the most powerful under his evil spell. In short, this was a man made up of nothing but 'all the human weaknesses'. This paper is part of a larger project, which aims at reassessing von Wolter within the specific socio-cultural context of the so-called Catholic Enlightenment of eighteenth-century absolutist Bavaria.

1 The research for this article was made possible by a grant from the Wellcome Trust. I am indebted to Roger Cooter for his suggestions and comments on earlier versions of the paper. I presented it first at the conference 'Medicine and the Enlightenment' in Cambridge in 2004 and the participants' comments helped very much in rewriting it. All the remaining mistakes are of course entirely my responsibility.

2 For a selection of contemporary opinion on Johann Anton von Wolter see Elisabeth Barbara Peer, *Johann Anton Edler von Wolter 1711–1787: Kurfürstlicher Leibarzt und Protomedicus im aufgeklärt-absolutistischen Bayern* (Augsburg: 1977), pp. 31–5. The following quotations are taken from there.

3 For the history of the Akademie see Ludwig Hammermayer, *Gründungs- und Frühgeschichte der bayerischen Akademie der Wissenschaften* (Kallmünz, 1959); *Geschichte der Bayerischen Akademie der Wissenschaften 1759–1807*, 2 vols (Munich, 1983); Andreas Kraus, *Die naturwissenschaftliche Forschung an der Bayerischen Akademie der Wissenschaften im Zeitalter der Aufklärung* (Munich, 1978); and 'Bayerischen Wissenschaften in der Barockzeit (1579–1750)', *Handbuch der bayerischen Geschichte*, vol. 2, ed. by Max Spindler (Munich, 1988).

The German Enlightenment (*Aufklärung*) has for some time been valued as unique.⁴ In contrast to the French Enlightenment,⁵ it was not directed against theology and the Protestant and Catholic Churches but functioned mostly in accord with Christian theology and through its institutions.⁶ Its achievements have been attributed to the influences of religious-friendly philosophies by thinkers such as Gottfried Wilhelm Leibniz or Christian Wolff. Furthermore, it is held to be related to the denominational divide of the country during the Reformation into a Protestant north and a Catholic south. This geographical-religious split, which accounted for two different intellectual cultures, was (outside of Switzerland) unique in eighteenth-century Europe.

Traditionally the historiography of the *Aufklärung* has addressed its Protestant manifestations. For a long time Catholic religion and the enlightened search for the advancement of knowledge, progress and reason were considered oxymoronic. This has now changed. Due to recent scholarship on the European Enlightenment, which underlines the many 'unreasonable' characteristics of the 'Age of Reason' and its heroes, the *Aufklärung* in Germany's Catholic countries has received more, unbiased, attention.⁷

But if the existence of a Catholic Enlightenment – indeed Catholic Enlightenments – is no longer in dispute, the precise nature of its achievements is.⁸ The investigation of von Wolter's life and career at the Catholic court of Maximilian Joseph has the potential to cast new light on the Catholic *Aufklärung*. His high position as the leading physician at the Wittelsbach court (after the Imperial court of the Habsburg in Vienna, the largest residence in the German-speaking world) made him the major player in the organisation of medical practice and other forms of the investigation of nature in eighteenth-century Bavaria of which we still know little. Furthermore, it offers insights into how a devoted Catholic such as von Wolter understood and

4 For this see Harm Klueting, 'Aufklärung und Katholizismus in Deutschland', *Katholische Aufklärung: Aufklärung im katholischen Deutschland*, ed. by Harm Klueting (Hamburg, 1993), pp. 2–39, here p. 4.

5 For this see Horst Möller, *Vernunft und Kritik: Deutsche Aufklärung im 17. und 18. Jahrhundert* (Frankfurt am Main, 1986), p. 30.

6 This was argued first by the late German Church historian Klaus Scholder, 'Grundzüge der theologischen Aufklärung in Deutschland', *Aufklärung, Absolutismus und Bürgertum in Deutschland*, ed. by Franklin Kopitzsch (Munich, 1976), pp. 294–318; here p. 295. Scholder initially referred only to the Protestant territories. Current historians such as Harm Klueting (quoted below) argue that this characteristic is also valid for the Catholic countries.

7 For this problematic of biased interpretation and recent research on the Catholic Enlightenment see the articles in Klueting, *Katholische Aufklärung*; see also the conference report by Helmut Zander, *Zeitschrift für historische Forschung* 7 (1980): 77–111; for a first overview on how Catholics interpreted the Enlightenment see Hans Maier, 'Die Katholiken und die Aufklärung – ein Gang durch die Forschungsgeschichte', *Katholische Aufklärung: Aufklärung im katholischen Deutschland*, ed. by Harm Klueting (Hamburg, 1993), pp. 41–53.

8 Zander, 'Tagungsbericht', p. 239; For an overview see Klueting, 'Aufklärung und Katholizismus'; see also Timothy C.W. Blanning, 'The Enlightenment in Catholic Germany', *The Enlightenment in National Context*, ed. by Roy Porter and Mikulas Teich (Cambridge, 1981), pp. 118–26.

negotiated the relationship between his personal faith and the new theories and practice in medicine and natural philosophy emerging during his life-time.

This paper begins with a event in the life of von Wolter, which may be interpreted as an encapsulation of his wider world that I am trying to access: his visit of the Swiss exorcist and Catholic priest Johann Joseph Gaßner (1727–79) in December 1774.⁹ By his contemporaries (and the few older biographical accounts on him written by historians follow this interpretation) this episode is usually depicted as the critical turning in von Wolter's life, after which nothing stayed the same.¹⁰ While his critics claim that the visit reinforced the conservative and reactionary religious tendencies in him, which then became visible in his support of the ex-Jesuits (the Society had been abolished in 1773), his supporters do not deny that Gaßner's spectacle greatly impressed von Wolter; they tend to excuse this episode as an unfortunate but pardonable faux pas, or prefer not to mention it at all.¹¹ Both parties agree that von Wolter's enthusiasm for Gaßner's miracle healings is strangely at odds with his commitment to enlightened ideas. Using new archival material that reveals how von Wolter interpreted what he experienced in December 1774, I shall argue that his enthusiasm for these alleged miracle healings was couched in the language of one of the most vibrant and agitated enlightened discussions of his time: the debates around materialism and its understanding of the functioning of the human body, of which von Wolter was acutely aware and on which he took a specific position.

* * *

At the crack of dawn on 19 December 1774 two coaches left Munich. The travellers included Baroness Louise von Erdt, the court physician Anton Joseph Leuthner,¹² the Theatiner padre Don Ferdinand Sterzinger (1721–86)¹³ and von Wolter, the father of the Baroness of Erdt. This illustrious group was heading north, towards the tiny baroque city of Ellwangen, the residence of the bishop of Regensburg, about a day's journey away. Since November 1774 Ellwangen had attracted thousands of visitors

9 For Gaßner see the detailed study of Josef Hanauer, *Der Teufelsbanner und Wunderheiler Johann Joseph Gaßner (1727–1779)* (Regensburg, 1985). The historian Eric Midelfort is currently preparing a new monograph on Gaßner that will soon be published.

10 For the opinions of Wolter's contemporaries see the biography by Peer, *Johann Anton Edler von Wolter*, pp. 201–6. Peer herself is puzzled by von Wolter's allegedly sudden turn to reactionism. See also Joseph Schuster, 'Protomedicus Dr. Johann Anton Edler von Wolter: Ein Kultur- und Charakterbild aus dem 18. Jahrhundert', *Bayernland* 23 (1912): 344–7, 366–9; 24 (1913): 190–1.

11 See for example Schuster, 'Protomedicus'.

12 Leuthner wrote a treatise in defence of Gaßner entitled *Urteil eines altgläubigen Philosophen über die neumodischen Gedanken einiger Überklugen der heutigen Welt von der wunderbaren Heilungsart des Hochwürdigten Herrn Johann Joseph Gaßner* (1775). For an overview of the opinions of German eighteenth-century physicians and natural philosophers on Gassner/Gaßner's healings, see Hanauer, *Johann Joseph Gaßner*, pp. 415–30.

13 Hans Fieger, *P. Don Ferdinand Sterzinger ... Bekämpfer des Aberglaubens und Hexenwahns und der Pfarrer Gaßnerschen Wunderkuren: Ein Beitrag zur Geschichte der Aufklärung in Bayern unter Kurfürst Maximilian III. Joseph* (Munich, 1907).

from all over Germany and abroad to consult its latest celebrity, the exorcist Johann Joseph Gaßner.¹⁴

Gaßner, a Swiss priest and protégé of the blind bishop of Regensburg,¹⁵ famously claimed that human diseases were not rooted in natural causes. Physical suffering, he argued instead, was first of all a symptom of the devil's presence in a human body. Therefore no doctor was required in order to regain health; what was needed, rather, was an exorcist such as himself who, in the name of Jesus, would rid the body of all devilish influences. After some sensational healing successes and the publication of his treatise *Nützlicher Unterricht wider den Teufel zu streiten* in the autumn of 1774,¹⁶ the self-appointed exorcist became the subject of one of the most controversial debates of the German *Aufklärung*, reaching all levels of the German public.¹⁷

According to his most ardent supporters, who praised him as the God-sent apostle against the fashionable tendencies of *Freigeisterei* [freethought], the Swiss priest was hugely successful.¹⁸ When he left Ellwangen after seven months, in June 1775, he had allegedly treated more than 20,000 patients (more than 100 per day!) from all social and intellectual backgrounds. Among his supporters were not only many important members of the clergy and Bavaria's Catholic nobility, but also many Protestants such as the Duke of Württemberg or the famous Zurich minister Johann Kaspar Lavater (1741–1801).¹⁹

It only took a short time for Gaßner to become the hot topic among the courtiers at the residence of the Wittelsbach dynasty in Munich.²⁰ Many who had travelled to Ellwangen out of curiosity or in hope of cure had experienced Gaßner's miracles

14 For Gaßner's activities in Ellwangen see Hanauer, *Johann Joseph Gaßner*, pp. 338–44.

15 The Bishop Anton Ignaz von Fugger had initially hoped to regain his sight through Gaßner's miracle healings. For this see Hanauer, *Johann Joseph Gaßner*, pp. 463–4.

16 Johann Joseph Gaßner, *Des Wohlehrwürdigen Herrn Johann Joseph Gaßner, der Gottesgelehrtheit und des geistlichen Rechts Candidaten, seeleifrigen Pfarrers in Klösterle, Weise fromm und gesund zu leben, auch ruhig und gottselig zu sterben, oder nützlicher Unterricht wider den Teufel zu streiten* (Kempten, 1774).

17 See for this Wolfgang Behringer, *Hexenverfolgung in Bayern: Volksmagie, Glaubenseifer und Staatsraeson in der Frühen Neuzeit* (Munich, 1997), pp. 396–7. The famous Franz Anton Mesmer was interested in Gaßner's healings. Although Mesmer spent time in Meersburg in 1775 and in Regensburg in 1776, areas close to where Gaßner was performing, it is not known whether they ever personally met. Mesmer considered Gaßner an 'ehrlicher und redlicher Mann' [an honest and upright man] but was convinced that his cures were not related to any devilish influence but to animal magnetism. For Mesmer's opinions on Gaßner see Hanauer, *Johann Joseph Gaßner*, pp. 427–30.

18 Richard van Dülmen, *Aufklärung und Reform in Bayern II: Die Korrespondenz des Pollinger Prälaten Franz Töpsel mit Gerhoh Steigenberger (1773–1787/90)* (Munich, 1970), p. 64.

19 For a detailed account of his supporters and enemies see Hanauer, *Johann Joseph Gaßner*, pp. 383–502. For Lavater's initial enthusiasm that soon gave way to suspicion and final rejection of Gaßner's methods see Hanauer, *Johann Joseph Gaßner*, pp. 404–11.

20 For the organisation of the Munich court and court life see Rainer Babel, 'The Duchy of Bavaria: The Courts of the Wittelsbach c. 1500–1750', *Princely Courts of Europe: Ritual, Politics and Culture Under the Ancien Regime 1500–1750*, ed. by John Adamson (London,

first hand. Most had returned deeply impressed and many claimed that they had left Ellwangen free from all their previous physical suffering. It was these enthusiastic reports that had raised the interest of von Wolter. But intellectual curiosity was definitely not his only rationale for visiting Gaßner. For several years his daughter Louise had been seriously ill, suffering from inexplicable convulsions and the falling sickness. Her father's medical skills, acclaimed all over the Electorate, had brought no relief for her sudden headaches and frenzied fits of fury, which were usually followed by longer periods of melancholic apathy and extreme physical weakness. Von Wolter wrote to Gaßner in order to seek the exorcist's opinion on behalf of his daughter.²¹

Gaßner, flattered by the interest of Bavaria's influential physician, did not miss the chance to capitalise on it. He promised the full recovery of von Wolter's daughter if she would be willing to join him in Ellwangen. Immediately von Wolter began to prepare for their departure. But due to his own influential position at court and his daughter's high social status as the wife of one of the Elector's privy councillors, their trip turned into much more than a simple 'family outing'. In order to prevent any embarrassment and potential wider political scandal to his patron, von Wolter's trip required careful planning.

The Elector Maximilian Joseph, whose territories neighboured those of the Bishop of Regensburg where the miracles were performed, did not wish to take sides in the Gaßner affair.²² Caution in relation to all matters relating to 'spiritual possession' was probably a wise political move. After all, it was only four years prior to this, in 1770, that the so-called *Bayerische Hexenkrieg* [Bavarian witch-war] had burned through the region.²³ The 'war', which had revolved around questions of divine and demoniac possession, the nature of superstition, and who held the power to distinguish the supernatural from deceit and deception, had been sparked off by the above-mentioned reform-minded, Theatiner padre, Ferdinand Sterzinger of Munich. In an official lecture delivered on the occasion of the Elector's birthday in 1766,²⁴ Sterzinger had boldly attacked any belief in witchcraft as superstitious, a fairytale only to be believed, he argued, by Bavaria's uneducated peasants and village folks. No enlightened and reasonable person, Sterzinger flattered his illustrious audience (consisting of Maximilian Joseph and the members of the Bavarian Academy of the Sciences), could possibly cherish such a misconstrued chimera, he claimed. Considering that the rules of the recently founded Academy strictly forbade any discussion of religious issues, and that it was only 10 years before that the Elector

1999), pp. 189–210; Samuel John Klingensmith, *Utility and Splendor: Ceremony, Social Life and Architecture at the Court of Bavaria 1600–1800* (Chicago, IL, 1993).

21 The correspondence is lost but Ferdinand von Sterzinger mentions it in his diary: see Staatsbibliothek Munich, Cgm 1985 Gassneria. The diary is reprinted in Fieger, *Ferdinand Sterzinger*, pp. 179–98. For the mention of von Wolter's letters see p. 179.

22 For the Elector's agenda see Hanauer, *Johann Joseph Gaßner*, pp. 436–41.

23 For the *Hexenkrieg* (1766–70) see Wolfgang Behringer, *Hexenverfolgung*, pp. 371–93.

24 Ferdinand Sterzinger, *Akademische Rede von dem gemeinen Vorurtheile der wirkenden und thaetigen Hexerey* (Munich, 1766).

himself had ordered the last witch-burning on Bavarian territory, Sterzinger's polemic attack was indeed daring.²⁵

And when the printed version of his speech reached the Bavarian public soon afterwards it was understood by most of his Catholic peers as a major and devastating blow against their faith. Immediately quills were sharpened and fierce counter-attacks printed and published in the many Catholic institutions all over the Electorate. From pulpits priests reminded their congregations of the many disguises that the devil could take to lead them astray; and Jesuits announced increases in the actual number of possessed people all over Bavaria. Contemporaries felt that Sterzinger's speech threw the region into an unusual mood of excitement and upheaval. 'There was no palace, no shed, no cell, ever so quiet which did not enthusiastically offer its opinion as if it was up to it to decide the issue.'²⁶

From the perspective of the Elector and his councillors, the Bavarian witch-war had presented a dangerous and destabilising political development. The petering-out of these debates after four years in 1770 was greeted with relief. Thus, when Gaßner took up his exorcisms only four years later in a neighbouring territory, and did so under the patronage of a high official of the Catholic Church, the Bavarian government registered a potential for disruptive religio-political controversies.

The Elector was determined to keep any renewed discussions over superstition and the role of the Church under tight control. His preventive measures, such as the prohibition of Gaßner's writings (as well as those of his critics),²⁷ were however not as deeply rooted in anticlerical feelings or in a strong enlightened wish to eradicate all 'unreasonable thinking', as some historians have claimed.²⁸ Despite the influence of Johann Adam of Ickstatt, one of Germany's leading professors of constitutional law, an ardent admirer of Christian Wolff's philosophy and one of the Elector's tutors, Maximilian Joseph remained a committed Catholic and, as such, was strongly of the opinion of the possibility of miracles and the necessity for exorcisms.²⁹ Religious toleration, a fashionable topic among enlightened intellectuals, was something he never seriously considered turning into political and legal practice in his territories.³⁰ Confessional unity and peace, provided by the Catholic Church and its institutions, he believed, was one of the most important pillars of his absolutist reign. How could

25 For this see Wolfgang Behringer, *Hexenverfolgung*, pp. 357–65. For the rules of the Akademie see Hammermayer, *Frühgeschichte*.

26 For the original quotation see Lorenz Westenrieder, *Geschichte der baierischen Akademie der Wissenschaften*, vol. 1 (Munich, 1784), p. 232. Wolfgang Behringer argued that the Gaßner debate presented one of the most important debates of the entire German *Aufklärung*. For this see Behringer, *Hexenverfolgung*, pp. 396–7.

27 Such as, for example, Ferdinand Sterzinger. For this see Hanauer, *Johann Joseph Gaßner*, p. 437.

28 This is for example the case for Hanauer, *Johann Joseph Gaßner*, pp. 436–40.

29 His second tutor who was also his confessor was the Jesuit Daniel Stadler. On Maximilian III Joseph see Rudolf Elhardt, *Max III. Joseph: Kurfürst zwischen Rokoko und Aufklärung* (Munich, 1996); see also Kraus, *Geschichte Bayerns*, pp. 334–5.

30 For this see Kraus, *Geschichte Bayerns*, pp. 334–5.

subjects of a faith different from his own or that of the established Church, be seen as truly loyal?³¹

But as in many other Catholic states, so in Bavaria, conflicts between the absolutist state and the Church hierarchy emerged.³² Since the 1760s the relationship between the Bavarian government and the Church had been strained as a consequence of the Elector engaging in a reform programme aimed at re-organising the relationship between the state authorities and those of the Church.³³ These reforms aimed at enhancing the power of the state, and its head, by cutting away the Church's century-old privileges and, more importantly perhaps, diverting some of its income to relieve the Elector's chronic financial distress. Considering that in the mid eighteenth century the Catholic Church was still Bavaria's greatest landowner, the financial implications were substantial. Understandably, the increasing attacks of the state authorities on the Church property and privileges caused considerable friction and irritation on which the Elector (in the interest of the stability of his rule) hoped to keep a lid. Thus, while Maximilian Joseph sought to be informed about the nature of Gaßner's doings and his authenticity, he did not officially take sides.

Von Wolter's request to travel to Ellwangen was therefore opportune – a means for Maximilian Joseph to gain first-hand information from a trusted source. The Elector did not question the expertise of his favourite physician to judge the validity of Gaßner's cures. However, he was aware that von Wolter's judgement might be biased due to the involvement of his own daughter. A further source was thus required. For a second medical view, another court physician, Johann Anton Leuthner, a work colleague of von Wolter, was given permission to travel to Ellwangen. And in order to provide solid theological assessment the Elector chose Ferdinand Sterzinger, whose prominent role in the Bavarian witch-war had gained him the nickname of the country's miracle expert. Sterzinger saw his mission as testing the validity of Gaßner's miracle healings according to the requirements and doctrine of the Catholic Church. Were Gaßner's *Komödien* (Comedies),³⁴ as Sterzinger jokingly labelled the Swiss priests' exorcisms, genuine miracles or perhaps clever counterfeits staged by the devil to fool man? Was he a holy man, or a faker and publicity-seeker? The more he dipped into Gaßner's own writings, prior to his visit, the more suspicious and sceptical Sterzinger had become.

31 For this see Andreas Kraus, 'Probleme der bayerischen Staatskirchenpolitik 1750–1800', *Katholische Aufklärung: Aufklärung im katholischen Deutschland*, ed. by Harm Klueting (Hamburg, 1993), pp. 119–41. For the problem of religious toleration and European rulers see Outram, *Enlightenment*, pp. 36–46; for the ambiguous relationship between monarchs and leading thinkers see also L. Krieger, *Kings and Philosophers 1689–1789* (New York, 1970).

32 For such reforms in Austria under Maria Theresa and her son Joseph II, see for example Ernst Wagermann, *The Austrian Achievement 1700–1800* (New York, 1973); and Derek Beales, *Joseph II: In the Shadow of Maria Theresa, 1741–1780* (Cambridge, 1987).

33 For these reforms and the Bavarian *Staatskirchentum* [State Church] see *Handbuch der Kirchengeschichte*, vol. 5: *Die Kirche im Zeitalter des Absolutismus und der Aufklärung*, ed. by Hubert Jedin (Freiburg, 1970), pp. 524–30; see also Kraus, 'Staatskirchentum'.

34 Fieger, *Ferdinand Sterzinger*, p. 194.

After a stopover in Nördlingen, where the party stayed with the local town physician (who could hardly believe his luck to host Protomedicus von Wolter, 'our greatest and most enlightened physician'),³⁵ the group reached Ellwangen on 20 December and took up residence at a local hotel. Early the next morning all rushed to the house of a local nobleman where Gaßner was performing his daily exorcisms.³⁶

On that particular occasion Gaßner's two consultation rooms were filled with about 30 people, predominantly nobility and high court officials from Munich, including the Elector's constable. After having successfully driven the devil out of the right foot of a young Munich noble woman, out of the body of a peasant boy (his violent convulsions greatly amusing the noble audience), then freeing the son of the Elector's court decorator of his embarrassing stomach winds and falling sickness,³⁷ Gaßner turned his attention to von Wolter's daughter, Baroness von Erdt. I shall focus on her exorcism in detail not only because it offers clues to the understanding of her father's later judgement on Gaßner, but also because it exemplifies Gaßner's 'exorcism dramas', which generally unfolded in three distinct acts.³⁸

In the first act, the allegedly possessed victim and the crowd had to be brought under Gaßner's control. Nancy Caciola has recently argued that the overwhelming dynamic and success of any exorcism session always depended on the establishment and functioning of a specific power hierarchy and dynamic between the exorcist, the possessed victim and the attending witnesses.³⁹ All need to be rendered submissive and collude in the dramatic process. Any exorcism, Caciola argues, scripts the main dramatis personae of the event into precise roles from which there can be no deviation. And there is no doubt that Gaßner was clearly a master of this script.

In the beginning of his session with the Baroness, Gaßner encouraged her to 'confess' her physical symptoms and share her disease narrative with him and the audience.⁴⁰ During this intimate centre-stage conversation, which was not unlike the diagnostic encounter between a medical practitioner and a patient, Gaßner deliberately involved members of the audience, preferably those of high social status and/or in close relationship with the sufferer. In the case of Baroness von Erdt he asked her father and his colleague Anton Leuthner to join with him in performing medical tasks such as feeling the Baroness's pulse and checking her breathing during the exorcism. He also asked von Wolter to give a full and detailed account of his daughter's symptoms and her previous unsuccessful treatments. Von Wolter's obvious acceptance of Gaßner's authority in matters of health and disease

35 Bayerische Staatsbibliothek Munich Cod. Gem 3732 Gassneria, Letter by the physician Düttel from 23 December 1744.

36 For Gaßner's daily routine during his stay in Ellwangen, see Josef Hanauer, *Johann Joseph Gaßner*, pp. 338–44. The following account is based on Ferdinand Sterzinger's diary as reprinted in Fieger, *Ferdinand Sterzinger*, pp. 178–98.

37 For the detailed description of these three exorcisms see Fieger, *Ferdinand Sterzinger*, pp. 181–5.

38 Nancy Caciola, *Discerning Spirits: Divine and Demonic Possession in the Middle Ages* (Ithaca, NY, 2003) distinguishes rituals into three-stage performances. She also gives an interesting account on the history of exorcism, pp. 225–74.

39 Caciola, *Discerning Spirits*, p. 254.

40 For the following see Fieger, *Ferdinand Sterzinger*, pp. 185–90.

not only made him an integral part of the whole performance (and its success) but also legitimated Gaßner's doings in the eyes of the spectators. His credibility and authority were thereby enhanced. The first act of his exorcism drama drew to a close when Gaßner announced (after a short prayer with his eyes closed) the 'diagnostic result' and his 'prognosis'. Unsurprisingly, the Baroness's symptom and signs were all caused by the devil. Without doubt she was possessed, but with his help, she would fully recover.

In the second act Gaßner focused on the possessed body of the Baroness, turning it into a battleground between (his own) divine power and the unclean indwelling spirit. By speaking in an authoritative voice in the name of Jesus, Gaßner made her symptoms appear one after another; Gaßner thus visibly engaged in a fight with the devil over the Baroness's bodily functions. The reactions of the possessed to his demands were violent, involving a complete loss of physical and social control. Her eyes started to roll, her face was pulled into frightening grimaces, she bared and ground her teeth. Her whole body began to twist and shake, and she physically attacked and verbally insulted some of the witnesses, including Ferdinand Sterzinger. While the audience cried out in horror, the priest rejoiced and shouted triumphantly, 'Now we have almost won it!'⁴¹

When he ordered the devil to leave, by using the Latin expression 'cesset', her fury immediately stopped. Gaßner had gained his first visible victory over the devil inside the Baroness's body. But the struggle was far from over. Over the next two hours Gaßner continued to wrestle with the devil by ordering physical symptoms to appear and then disappear, until the Baroness was completely exhausted and Gaßner allowed her to regain some strength over lunch.

In the third and final act of the exorcism drama, Gaßner increasingly gained control over the devil. Finally, the latter had to give in and was forced to leave her body for good. Once she was freed from the devil, Gaßner instructed the Baroness on how to protect herself against any further devilish onslaughts. The highly emotional performance, which had brought some of the witnesses to the brink of fainting, ended with the Baroness kneeling in front of Gaßner. He put a stole over her head, pressed a cross against her front and mumbled something incomprehensible to the surrounding crowd. He then ordered her to get up and declared her healed. The audience applauded and congratulated the Baroness on her full recovery. Her physical and social integrity was restored.⁴²

What were the reactions among the members of the Munich travel group to this extraordinary performance? Bavaria's specialist of superstition, Ferdinand Sterzinger, who admitted in his diary that the first couple of exorcisms had almost won him over,⁴³ was, by the end of the day, convinced that Gaßner's exorcisms

41 Fieger, *Ferdinand Sterzinger*, p. 187.

42 Obviously Baroness von Erdt remained healthy. A memorandum published in 1776 by her husband Maximilian von Erdt in support of Gaßner claims that she was not only in splendid health but also six months pregnant. The memorandum is quoted in Peer, *Anton Edler von Wolter*, p. 204.

43 During lunch Sterzinger went to local church and prayed to the Holy Spirit to sent him 'enlightenment' in these questions. Fieger, *Ferdinand Sterzinger*, p. 185.

were not genuine and that everything he had seen was simply ‘an art, to direct the phantasy of the patient in such a way that he does what he is ordered to do’.⁴⁴ Several recurring elements in Gaßner’s exorcism he considered to be in stark opposition to the miracle healings of Jesus, as told in the Gospels on which the Christian belief in miracles and the relevance of exorcisms was ultimately based.⁴⁵ Nowhere had it been written, Sterzinger remarked sarcastically, that Jesus had made people sick first before he healed them. This idea, he argued, was irreconcilable with true faith in God. ‘How can the sweet name of Jesus be abused for such a terrible thing as all sickness is?’, he wondered, questioning Gaßner’s alleged divinely sanctioned ability to make disease symptoms appear in the bodies of his patients.⁴⁶ Although Sterzinger acknowledged that Gaßner’s healing successes were striking, for him they were no proofs of supernatural or divine power. Quite the opposite; as Sterzinger suspected, some ‘mysterious power from the realm of nature’ possibly some kind of magnetic, electrical or sympathetic force was responsible for what he had witnessed.⁴⁷ He concluded: ‘Whatever it is that allows Gaßner to make his patients either sick or healthy, I stick with my opinion, that everything is natural. God does not do it, the devil cannot do it: therefore it is nature.’⁴⁸

No one disagreed more with Sterzinger’s judgement than Bavaria’s most famous ‘specialist of nature’ von Wolter. Both practically and emotionally he had been deeply implicated in his daughter’s ‘successful’ exorcism. In a letter written to a friend on 2 January 1775, and so far the only archival evidence that allows some insight into von Wolter’s interpretation of his visit to Ellwangen, he proposed that Gaßner’s healing was miraculous.⁴⁹ Never in his whole long career as a physician, he wrote, had he encountered such an extraordinary phenomenon which could only be grasped when personally present. Although similar healings had been reported from Paris, he doubted that any of those healers were able to influence their patient’s nature only from a distance, as Gaßner had done. The priest’s ability to submit a patient to his will, so that symptoms and signs appeared and disappeared on his command, was a divine gift that Bavaria’s ‘most enlightened’ physician, von Wolter, admired most, he told his friend.

Although a faithful Catholic himself, von Wolter did not primarily judge what he saw by his knowledge of the Scripture and the teachings of the Catholic Church as Sterzinger did. He assessed Gaßner’s performance primarily from his knowledge of natural philosophy and medical theory, as well as his long-term medical practice. In his letter it becomes evident that von Wolter welcomed Gaßner’s ‘healing miracles’ as long-awaited evidence for the falsity and absurdity of some of the latest fashionable materialistic tendencies in natural philosophy, as penned by David Hume (1711–

44 Fieger, *Ferdinand Sterzinger*, p. 193.

45 For this see Caciola, *Discerning Spirits*, pp. 1–22.

46 For Sterzinger’s reasoning about these issues see Fieger, *Ferdinand Sterzinger*, pp. 182–3.

47 Sterzinger, *Wunderkuren*, quoted in Fieger, *Ferdinand Sterzinger*, pp. 199–200.

48 Sterzinger, *Wunderkuren*, quoted in Fieger, *Ferdinand Sterzinger*, p. 200.

49 For the letter see Bayerische Staatsbibliothek HA, Cgm 1985 Gassneria, 2 January 1775.

76), Denis Diderot (1713–84) and Julien Offrey de La Mettrie (1709–51), whose works von Wolter singled out as particularly dangerous and atheistic. And indeed, in their explanation of the functioning of human physiology (von Wolter's area of expertise) all three writers had moved considerably away from any dependency on the Christian concept of the soul. La Mettrie in his *L'Homme machine* (1748) had even denied the existence of a rational soul, and proclaimed no freedom of will and no moral good beyond the perfectibility of the machine.⁵⁰ All knowledge, La Mettrie argued, ultimately came from sense perceptions of the surrounding physical world which, Hume had pointed out, proceeded according to laws independently from God's will. The existence of an order in nature, or the laws of the cosmos, did not necessarily betray anything about the nature of its creator, or indeed whether or not there was a creator, Hume claimed.⁵¹

Hume attacked Christian belief from another angle that touched von Wolter's experience in December 1774 more directly. Applying a Newtonian view of the laws of nature in his essay *On Miracles* (1748), Hume brought into doubt the likelihood of miracles and, like others after him, attacked miracle stories as belonging to a long line of priestly confidence tricks on an ignorant and credulous people.⁵² He was well aware that his doubt about the existence of miracles meant an attack on Christ's divinity, because the proof of Christ's divinity was held to be the miracles he had performed (such as the rising of Lazarus from the dead, or the Resurrection itself), and which were attested in the Gospels. Although we do not know how far von Wolter engaged with Hume's essay and other enlightened philosophers on the subject, the letter to his friend reveals that he deeply resented the notion that nature proceeded independently from God by mechanical laws. These dangerous ideas, he wrote, were born in England, further cultivated in France, and were unfortunately spreading all over Germany due to their cultivation under the Prussian ruler Frederick II.⁵³

However, von Wolter continued, had these dangerously atheistic authors been present at Gaßner's exorcisms it would have changed their views. Their eyewitnessing alone, he predicted, would have changed their 'pernicieux ouvrages' for the better. For von Wolter, Gaßner's exorcisms, performed with the help of God, were self-evident, their meanings patent to all who had eyes to see. The spectacular and successful healing of his daughter convinced him that human nature did not follow laws but was intrinsically bound up with God's will. For Hume, on the other hand, eyewitness accounts of miracles were the least reliable of all forms of evidence.⁵⁴ While he acknowledged that human testimony might be a necessary part of establishing

50 For La Mettrie see Thomas L. Hankin, *Science and the Enlightenment* (Cambridge, 1985), pp. 6, 129–33.

51 For the following on Hume and the questions of miracles see the overview by Dorinda Outram, *The Enlightenment* (Cambridge, 1995), pp. 41–3; for Hume in general see E.C. Mossner, *The Life of David Hume*, 2nd ed. (Oxford, 1980).

52 In 1765 Voltaire followed him in his criticism in his essay *Questions sur les miracles*.

53 The Prussian ruler had hosted both La Mettrie and Voltaire.

54 For this see Outram, *Enlightenment*, p. 41; for the changing epistemological value of miracles from the Middle Ages to the Enlightenment see Lorraine Daston, 'Marvelous Facts and Miraculous Evidence in Early Modern Europe', *Critical Inquiry* 18.1 (1991): 93–124;

their credibility (otherwise nobody would have known of their existence), human eyewitness testimony was for Hume insufficient to lend credibility to accounts of events that were contradicted both by the law of nature and by present-day human experience.

Thus while much separated von Wolter from some of the most radical natural philosophers of his time in regard to his understanding of miracles, he shared in fact much with the Catholic theologian Sterzinger. Both believed in the existence of miracles and the necessity of exorcisms as a valid means to discern spirits in possessed bodies and to expel them. Furthermore, both understood miracles as a proof of Christ's divinity. Personal presence at such events, accounts of eyewitnesses like themselves, were considered by both as viable means of asserting the veracity of miracles. That they came to opposing views with regard to their interpretation of Gaßner's exorcisms is, I suggest, related to the fact that each tried to grasp what they had witnessed with different categories of knowledge involving different categories of truth and falsehood.⁵⁵ Sterzinger, the Catholic theologian, measured Gaßner's claims to visionary or prophetic authority and his exorcisms against the writings of the Gospel and the regulations of the Catholic Church. A superstition expert, Sterzinger aimed at finding out whether Gaßner was a mouthpiece of God or just a false saint puffed up with pride. And according to his proven expertise in these matters Gaßner was a fraud. Von Wolter, by contrast, was not interested in whether Gaßner's exorcisms followed the Scripture and the Church regulations – at least not initially. He admitted in his letter that he was unable to judge his doings theologically.⁵⁶ Nevertheless he believed Gaßner's cures to be genuine miracles because the natural philosophy and medical theory that he considered valid, were unable to explain to him what he saw and felt. He also feared, he told his friend, that to deny Gaßner's exorcisms the status of miracles, or to ascribe to them the mere workings of nature, would open the floodgates to the new materialistic philosophies which explained nature as independent of God's will and the human body as a soulless machine. Although Sterzinger did not make explicit the concept of nature that he saw responsible for Gaßner's success, it is probably safe to say that he would have agreed full-heartedly with von Wolter in his rejection of these materialistic philosophies, interpreted by both as atheistic.

But is the fact that von Wolter believed in healing miracles and disagreed profoundly with materialistic natural philosophical thought evidence enough to cast him as a reactionary bigot, as some of his contemporaries did? A closer look at his own publications will help here to get a somewhat fuller picture of his general intellectual interests and convictions.

and the detailed study by her together with Katharine Park, *Wonders and the Order of Nature 1150–1750* (New York, 1989).

55 This was already pointed out by contemporaries: Roman Zirngibl claimed that no final judgement on Gaßner exorcisms could be achieved because those who attempted to judge it 'hatten entweder zu wenig Theologie oder gewiß zu wenig Philosophie' [either too little theology or too little philosophy]. For the quotation see Hanauer, *Johann Joseph Gaßner*, p. 424.

56 Bayerische Staatsbibliothek Cgm 1985, 2 January 1775.

Von Wolter was an active member of the eighteenth-century Republic of Letters. He corresponded for example with the Académie des sciences in Paris (he was a member from 1756) over all kinds of chemical and botanical questions, reported the findings of strange fossils and sought the Academicians' opinion on the causes of an earthquake in Munich in 1756.⁵⁷ Besides his vast correspondence with physicians, natural philosophers and politicians all over Europe, von Wolter authored treatises on the chemical analysis of Bavaria's mineral springs and on peat.⁵⁸ In his *Pharmacopœia militaris* (1754) he outlined a medical reform of Bavaria's military, and with his various writings on midwifery, the control of pharmacies and quackery, and the organisation of hospitals, he sought to bring about the wholesale reform of Bavaria's medical system, laid down in a *General-Medizinal-Polizeiordnung*.⁵⁹

In his public lectures von Wolter praised the usefulness of chemistry in the areas of agriculture and mining for the prosperity of the state and its ruler.⁶⁰ Misuse of chemistry, and here von Wolter singled out alchemy and its search for gold, must not be supported by any state. Quoting one of his heroes, the Dutch physician Boerhaave, von Wolter said that chemistry should restrict itself to certain well-defined areas in order to 'sincera eluceat veritas omnisque evitetur error'.⁶¹ Von Wolter's obvious search for 'truth' in all investigations of nature and his hope to eliminate error or superstition for the well-being of the Bavarian state, is most clearly expressed in his public lecture on *Landschädliche Vorturtheile* (Prejudices harmful for the country) (1768),⁶² delivered on the occasion of the Elector's birthday in front of the members of the Akademie der Wissenschaften. Von Wolter praised the Elector for bringing *Aufklärung* und *Vernunft* to Bavaria in founding the Akademie whose members were engaged in a relentless fight against all kinds of *Unwissenheiten* [ignorance]. He pointed out how ignorance and superstition not only threatened the health and life of each individual Bavarian but also, and more importantly, the population as a whole and thus the well-being and prosperity of the state. 'It is undeniable that the greatest strength and value of a state lays in the greatest number of healthy and work-fit

57 See the overview in Peer, *Johann Anton Edler von Wolter*, pp. 72–8.

58 Anton von Wolter, *Gründlicher Bericht von den Ditzzenbacher Heilbrunnen in der Grafschaft Wiesensteig, dessen Gehalt, Wirkung und Krafft, auch wie derselbe so wohl allein, als mit Milch vermischt, bey verschiedenen Krankheiten mit Nutzen zu gebrauchen ist* (1755); *Nachricht von dem Torf, worinnen bewiesen wird, daß der Rauch des Torffeuers der Gesundheit nicht im mindesten schädlich sey* (1763).

59 His first plan for such a *General-Medizinal-Polizeiordnung* dated from 1755. See Peer, *Johann Anton Edler von Wolter*, p. 152. For an overview of Bavaria's organisation of medicine between the sixteenth and the eighteenth century see Alexander Hoffmeister, *Das Medizinalwesen im Kurfürstentum Bayern* (Munich, 1975).

60 Anton von Wolter, *Oratio anniversaria die natali Serenissimi Electoris Maximiliani Josephi ... de utilitate artis chemiae ad rem publicam ipsumque Principem* (1764). In this lecture he mentioned at length one of his predecessors at the Munich court, the physician Johann Joachim Becher (1635–82). For Becher see Pamela Smith, *The Business of Alchemy: Science and Culture at the Holy Roman Empire* (Princeton, NJ, 1994).

61 [The clear truth shines forth and every error is avoided.] Von Wolter, *Oratio*, p. 12.

62 Von Wolter, *Akademische Rede von verschiedenen landschädlichen Vorurtheilen* (1768).

inhabitants.’⁶³ However, he continued, there was still a long way to go before such an aim could be achieved. The rural population was adhering to life-threatening superstitious medical practices, permitting an enormous rise in the number of quacks and wise women as well as the flowering of innumerable uncontrolled pharmacies in monasteries selling miracle potions and other dangerous medications. Although other European countries had introduced smallpox inoculation, most Bavarians were still suspicious of it, and rejected the latest blessing of enlightened medicine.⁶⁴ Von Wolter attributed these backward tendencies to the lack of education in Bavaria, in particular with regard to women. It was, he claimed, a disgrace that women were still treated as brainless creatures and excluded from all useful work in the sciences. They were condemned to the most ridiculous daily tasks, such as amusing their husbands. He hinted at a male conspiracy, proclaiming that ‘many men have agreed to support these appalling prejudices and make women crazy’.⁶⁵ This was however a dangerous game, he reminded his audience, considering that it was in the hand of these ‘senseless women’ that lay the future wealth of the state: its children. How could they educate children to become responsible and useful citizens when their mothers were kept in ignorance?

Von Wolter’s ‘progressive’ rhetoric and enlightened medical reforms, are characteristic of many writings of eighteenth-century German medical *Aufklärer*. His pondering on the value of certain ideas and actions for the economic prospering of the Bavarian state is a reminder that the German *Aufklärung* was intrinsically woven into older principles of cameralism and populationism and, as such, often braided nicely into the larger ambitions of enlightened German absolutist rulers and their ministers. It is virtually impossible to disengage von Wolter’s language and rhetoric from this cameralist-tinged discourse. It is even trickier to determine – if it can be determined at all – to what extent von Wolter’s words mimicked the patter of his patron, the Elector Maximilian Joseph, in order to further his courtly career and influence.

Rhetoric alone, as Mary Lindemann has pointed out, is an uncertain guide to the impact of the Enlightenment on German physicians.⁶⁶ She suggests that to determine how far physicians identified themselves with the goals of the Enlightenment, or how they defined it and allowed it to govern their public actions, and their medical practices, historians must probe the quotidian experience of physicians, the *Alltag* of their daily medical practice.⁶⁷ This plea for the analysis of actions over words was shared by Roy Porter who argued that although Enlightened philosophers saw themselves as intellectual critics, many were simultaneously enthusiastic activists, seeking not only to understand the world but to change it.⁶⁸

63 Wolter, *Akademische Rede von verschiedenen landschädlichen Vorurtheilen*, p. 6.

64 Wolter, *Akademische Rede von verschiedenen landschädlichen Vorurtheilen*, p. 6.

65 Von Wolter, *Akademische Rede von verschiedenen landschädlichen Vorurtheilen*, p. 118.

66 Mary Lindemann, ‘The Enlightenment Encountered: The German Physicus and His World’, *Medicine in the Enlightenment*, ed. by Roy Porter (Amsterdam, 1995), p. 184.

67 Lindemann, ‘German Physicus’, p. 181.

68 Roy Porter, *Enlightenment*, p. 3. See also the older work of Peter Gay, *The Enlightenment: An Interpretation*, 2 vols (New York, 1966–9), pp. 127–9.

From the abundant official papers that von Wolter left behind from his 30 years as Bavaria's leading medical consultant, it is clear that he was among the region's enlightened critical-activists. Here suffice it to sketch out an overview of his general career and the various functions and positions he held in order to indicate some of the problems he faced and questions he sought to answer.

In many ways von Wolter's career reads like a fairytale.⁶⁹ Born into a Luxembourg military family in 1711, he studied medicine at the University of Reims before becoming a physician in the French army of Louis XV. Sent to Germany during the war of the Austrian Succession (1740–8), he caught the eye, and soon gained the trust, of Charles Albrecht of Bavaria (1726–45), since 1742 Germany's elected emperor as Charles VII (1742–5).⁷⁰ The young Anton von Wolter climbed the career ladder with breathtaking speed. Already by December 1743 he had become councillor and 'body physician' to the emperor and, only a year later, Charles VII entrusted him with the medical organisation of his troops and hospitals which gained him the title of 'Protomedicus'.

His meteoric career was abruptly challenged, however, when, with the sudden death of Charles VII in January 1745, the Imperial dreams and ambitions of the Munich-based Wittelsbach dynasty were checked. Charles's son and successor, Maximilian Joseph, was compelled to honour Maria Theresa's right of succession to the Habsburg patrimonial lands and to promise to use his electoral vote to support the election of her spouse Franz Stephan of Lorraine, as the new emperor. Soon thereafter rumours began to spread in Munich that von Wolter had murdered Charles during his final illness. His medical colleagues, always suspicious of the French-only speaking von Wolter and jealous of his meteoric rise, accused him openly of malpractice and treason.⁷¹ In this difficult situation, which could easily have cost him his life, von Wolter revealed for the first time his political and diplomatic talents. These guaranteed the basis for his long and successful career at the Munich court, a place which, like other eighteenth-century princely and royal courts, was ripe with jealousy, gossip and political intrigue. All attempts to intimidate von Wolter failed. With remarkable fearlessness and verve, he fought his enemies and defended his medical decisions. Simultaneously, he won over the new 18-year-old Elector.⁷² Maximilian Joseph's trust in von Wolter (who called him Max in private) lasted

69 For this see the overview in Peer, *Johann Anton Edler von Wolter*, pp. 13–25.

70 For Bavaria's role in the struggles over the acknowledgement of the Pragmatic Sanction see Andreas Kraus, *Geschichte Bayerns*, pp. 319–22. On the Elector Karl Albrecht see P.C. Hartmann, *Karl Albrecht-Karl VII: Glücklicher Kurfürst, unglücklicher Kaiser* (Regensburg, 1985); on Maximilian Joseph's foreign policy in general see Alois Schmid, *Max III Joseph und die europäischen Mächte* (Munich, 1987).

71 These accusations are unlikely to be true but nevertheless they were based on the fact that part of von Wolter's salary at that time was still paid by the French government.

72 The rumours however never really ceased and von Wolter's colleagues did everything to keep them smouldering. In 1756 two of them, the 'body physicians' Clas and Saenftl published a '*Schmach- und Tadelschrift*', accusing him – among other things – of murdering Charles VII and treason. They even went so far to accuse (indirectly of course) the new Elector of covering these crimes up. See Bayerische Staatsbibliothek HA Oefeleana 341 No. 11, fol. 160.

until the Elector's death in 1777. Nothing, not even von Wolter's failure to help the Electoral consort Maria Anna to produce an heir, undermined the family's complete trust in him, as reflected in his growing number of official titles and positions.⁷³ He became the head of the Collegium Medicum (1754), responsible for the organisation of medical services at the Electoral court and in wider Bavaria; he was made inspector of the medical faculty at the University of Ingolstadt (1754); became medical inspector of Bavarian troops and military hospitals (1755); and acted twice as director of the philosophical class of the newly established Bayerische Akademie der Wissenschaften (1761–2; 1768–74).

As I have indicated, von Wolter's duties – like many other court physicians – extended beyond his medical and scientific expertise.⁷⁴ Several times he was sent on important long-term diplomatic missions to other German courts, an activity he little enjoyed to judge from his private letters.⁷⁵ In 1759, for example, he was sent to Dresden to participate in the negotiations over the capitulation of Saxony's capital after the incursion of the Prussian King Frederick II in the course of the Seven Years War (1756–63).⁷⁶ When negotiations failed, von Wolter risked his own life to organise the secret escape to Munich of Maximilian Joseph's sister, Maria Anna, and her husband, the Saxon electoral prince, Friedrich Christian.

As Bavaria's Protomedicus and head of the Collegium Medicum, von Wolter aimed high. His pet project was the wholesale reorganisation of medical practitioners and institutions in Bavaria. One area in which he was especially interested was midwifery, where he succeeded in establishing regular teaching and a country-wide exam.⁷⁷ After much discussion he finally convinced Maximilian Joseph in 1776 to set up a school for midwives in Munich in which for the first time men (*accoucheurs*) were allowed to study. Von Wolter selected the theoretical readings and provided the daily practical demonstrations by surgeons and experienced midwives. Another lifelong preoccupation was surgery.⁷⁸ He aimed at a clear distinction between barbers

73 For Maria Anna's five failed pregnancies between 1748 and 1756 and the following accusations see Peer, *Johann Anton Edler von Wolter*, pp. 44–66.

74 For an excellent study on the various duties of the Munich court physician Johann Joachim Becher see Smith, *Alchemy*. See also the various articles in Vivian Nutton (ed), *Medicine at the Courts of Europe, 1500–1837* (London, 1989); and Bruce T. Moran, *Patronage and Institutions, Science, Technology and Medicine at the European Court 1500–1700* (Rochester, NY, 1991).

75 For his stint in Dresden and his feelings about his diplomatic activities see for example the letter in Geheimes Hausarchiv, Korrespondenz Akt 1712 K II 43, fol. 35 16 April 1759.

76 The relationships between the Wettiner court in Dresden and the Wittelsbach court in Munich were intimate due to the double marriage in 1747 between Maximilian Joseph and the Saxon Princess Maria Anna Sophie (1728–97), and his sister Maria Anna with the wheelchair-bound Electoral prince of Saxony Friedrich Christian. For the relationships between Saxony and Bavarian in the eighteenth century see *Bayern und Sachsen in der Geschichte: Wege und Begegnungen in archivalischen Dokumenten*. Ausstellungskatalog Dresden September–November 1994 (Munich, 1994), pp. 150–4.

77 For a brief summary of his activities in this area see Peer, *Johann Anton Edler von Wolter*, pp. 133–43.

78 Peer, *Johann Anton Edler von Wolter*, pp. 143–53.

and surgeons, the definition of their duties and privileges as well as their supervision, by a central body of academic physicians, the Munich Collegium Medicum. This he considered the first step to assessing and controlling the many non-licensed medical practitioners and itinerant healers practising in Bavaria. His ambition to eradicate non-licensed medical practice was most successful in his crusade against the pharmaceutical activities of monasteries. His detailed report about the ‘scandalous conditions’ and the dangerous competition they presented to licensed pharmacies ultimately convinced the Elector to prohibit all medical activities in all religious institutions.⁷⁹ With the same enthusiasm von Wolter engaged in the improvement of medical education at the medical faculty of the University of Ingolstadt.⁸⁰ Here he fought for better funding, which ultimately facilitated the renovation of the anatomical theatre and the botanical garden and initiated the construction of a chemical laboratory. In order to catch up with Protestant medical education, which he considered superior, he introduced books by contemporary Protestant medical authors and fought for the admission of Protestant medical students.⁸¹ Von Wolter’s greatest achievement, however, was his reorganisation of Bavaria’s military medicine.⁸² Drawing on his earlier experience in the French military, he decided after visits to various Bavarian regiments in the summer of 1765 to, among other things, increase the number and the salary of the medical personal in the military hospitals and to introduce obligatory courses for military surgeons at the University of Ingolstadt. Appalled by the conditions in most of the institutions he visited, he had many of them rebuilt according to his plans and divided into surgical and infectious sections.

Was von Wolter a reactionary Jesuit bigot as some of his contemporaries maintained, or an activist for enlightened ideas, and a forward-looking rationalist medical practitioner? My conclusion from this preliminary venture into his life is that the question is unproductive. The opposition between ‘enlightened-reactionary’ and ‘rational-irrational’, which has hitherto dominated the literature around von Wolter is overly simplistic. As recent writings on the Enlightenment suggest, there is a need for caution in dealing with science and religion – especially religion, and in particular the intellectual and institutional expressions of Catholicism, which has tended to be filtered through the eyes of influential French and English *philosophes*.

79 In detail see Staatsarchiv, Staatsverwaltung 2293, fols 53–4; 57–8; see also Rainer Schnabel, *Pharmazie in Wissenschaft und Praxis. Dargestellt an der Geschichte der Klosterapotheken Altbayerns vom Jahre 800–1800* (Munich, 1965).

80 Peer, *Johann Anton Edler von Wolter*, pp. 162–75; for von Wolter’s involvement in Ingolstadt see also Siegfried Hoffmann, *Die Alte Anatomie in Ingolstadt: Ihr Schicksal als Institution und Gebäude* (Munich, 1974).

81 For Catholic universities during the German Enlightenment see Notker Hammerstein, ‘Was heißt Aufklärung in katholischen Universitäten Deutschlands’, *Katholische Aufklärung – Aufklärung im katholischen Deutschland*, ed. by Harm Klueting (Hamburg, 1993), pp. 142–62. For the great influence of some protestant writers, in particular the philosopher Christian Wolff on catholic university education see Bruno Bianco, ‘Wolffianismus und katholische Aufklärung’, *Katholische Aufklärung* ed. by Harm Klueting, pp. 68–103.

82 See Peer, *Johann Anton Edler von Wolter*, pp. 176–89.

Their bitter and mocking onslaughts upon the absurdity of the 'false faith', on the immoral corruption of the Vatican and its economic domination, and on the destructive and evil powers still exerted by 'blind credulity' over people's lives, have for too long been taken virtually at face value by secular historians, their discipline itself being closely bound up with this feature of the Enlightenment project. But such statements hardly do justice to the range and complexity of Enlightenment attitudes towards the faith.⁸³ In truth, beyond a very few over-celebrated Enlightenment figures, few European intellectuals of the eighteenth century were atheists or wished to replace religion with unbelief.⁸⁴ Interestingly, older views, which interpreted the Enlightenment as the 'rise of paganism' have recently been revisited, with scholars now arguing for a far richer and more diverse picture.⁸⁵ They reminded us that besides the well-known anti-religious propaganda, the Enlightenment generated many vigorous attempts at bolstering orthodox belief through the demonstration of its rationality, and its accord with natural law. Further, they remind us of the emergence of new and powerful religious movements that, for example, emphasised personal and emotional faith.⁸⁶ Now, at a time in the history of the world when evangelicals – would-be irrationalists – literally call the shots on the international stage, and the cult of emotionality runs fast in intellectual and social circles, it is well to question some of the central views of the elders. In fact, we could now say that the Enlightenment did not suffer from a 'disenchantment of the world', as Keith Thomas has once famously claimed, but underwent the opposite, a festival of great religious creativity.⁸⁷ As ever, it's all a matter of where you stand, how you stand, and who you are standing with.

Changing the historical view of the relationship between the Enlightenment and 'religion' bears upon how we historicise science. Increasingly, historians take into account that our understanding of the term science, as defined as a neutral and objective body of knowledge about Nature separated from other bodies of knowledge through theory and method, emerged only during the nineteenth century. In the eighteenth century the enquiry into 'Nature', the very subject matter of science, was

83 Historians and philosophers of the nineteenth century, influenced by the German philosopher G.W.F. Hegel (1770–1831), interpreted the Enlightenment as a time characterised by deliberate efforts to undermine religious belief and organisations, as a period of a decline in religious beliefs or a radical shift in meaning and context. These views have been adopted by many modern historians such as for example Peter Gay or Keith Thomas who both diagnosed the eighteenth century as the 'rise of paganism' and as suffering from a 'disenchantment of the world': Peter Gay, *The Rise of Modern Paganism*, vol. 1 and *The Science of Freedom*, vol. 2 (New York, 1966–69); Keith Thomas, *Religion and the Decline of Magic: Studies in the Popular Belief in Sixteenth- and Seventeenth-Century England* (London, 1983). Many of Hegel's arguments were taken up in the famous study of Horkheimer's and Adorno's, *Dialectic of the Enlightenment* (New York, 1972).

84 Porter, *Enlightenment*, p. 31.

85 For an overview and discussion of the past and recent literature see Outram, *The Enlightenment*, and Porter, *Enlightenment*.

86 An example is the Pietist movement in Germany or the English Methodists. For this Outram, *The Enlightenment* (Cambridge, 1995), p. 34.

87 Outram, *Enlightenment*, p. 32.

not separated out from other intellectual areas, nor were its practitioners readily distinguishable from practitioners of other forms of intellectual inquiry. The study of what we now call science still took place in other disciplines, linked under the heading of natural philosophy, a kind of clearing-house in which, retrospectively defined physics, metaphysics and theology (disciplines now separated) could meet and negotiate their claims.⁸⁸ As Andrew Cunningham and Perry Williams have pointed out, religion was integral to the enterprise of natural philosophy, including medicine, because ‘the whole point of “natural philosophy” was to look at nature and the world as created by God, and thus as capable of being understood as embodying God’s powers and purposes’.⁸⁹

One productive outcome of the recent shifts in the interpretation of eighteenth-century science and medicine as serving theological objectives is renewed interest in the contributions of Catholic natural philosophers to Enlightenment debates. Not the least important here is the role of the Jesuits who, until the suppression of the Society in 1773, a year before von Wolter visited Gaßner, controlled the schools and universities in most Catholic states. Virtually from its inception in 1540 the Society was the target of hostile criticism. In Germany this came not only from Protestants, but also from Catholics who came strongly to resent the influence of the Society at princely courts and universities. During the *Aufklärung*, the Jesuits were among the chief targets of educational reformers in both Protestant and Catholic territories. In fact, it has been argued that the most visible and defining characteristic of the so-called Catholic Enlightenment was its extreme hostility towards them.⁹⁰ Everywhere Jesuits were caricatured as the greatest enemies of reason, the ‘poison of progress’, and the inculcators of obscurantism in their pupils. Consequently, newly founded scientific institutions, such as (lo and behold) the Bayerische Akademie der Wissenschaften excluded all Jesuits from membership. Although much research still needs to be conducted in order to peel back the distortions and misinterpretations accumulated by generations of critics of Jesuits, recent studies have already indicated that eighteenth-century Jesuit scholarship and science did not in fact resemble the colossal reactionary disaster so often depicted. Marcus Hellyer among other has shown that despite the censorship of science (established early in the history of the Society and continued throughout its existence), its members were capable of appreciating many of the new scientific developments that occurred over the course of the seventeenth and eighteenth century (that is, experimental philosophy), despite commitment to Aristotelian scholastic frameworks. Science conducted at Jesuits colleges and at universities in Germany, Hellyer has shown, came perilously close to the traditional narrative of the Scientific Revolution.⁹¹

88 Dennis Des Chene, *Physiologia: Natural Philosophy in Late Aristotelian and Cartesian Thought* (Ithaca, NY, 1996), p. 3.

89 Andrew Cunningham and Perry Williams, ‘De-centring the Big Picture’, *British Journal for the History of Science* 26 (1993): 407–32.

90 For this see Richard van Dülmen, ‘Antijesuitismus und katholische Aufklärung in Deutschland’, *Historisches Jahrbuch* 89 (1969): 52–80.

91 Marcus Hellyer, *Catholic Physics: Jesuit Natural Philosophy in Early Modern Germany* (Notre Dame, IN, 2005). For the Jesuits in Bavaria see *Die Jesuiten in Bayern*

In view of these recent reinterpretations it is easy to argue that von Wolter was a man of the Enlightenment. He never tired of attacking what he considered simple-mindedness. He took part in the European-wide debates over reason and progress and contributed with his own publications. He was also an enlightened activist, eager to change the material world. Yet, in the final analysis it is hard, perhaps impossible, to neatly categorise him. He was neither a rationalist, believing reason was all, nor an irrationalist, surrendering his judgement before feelings, faith, intuition and authority. His enthusiastic reaction to Gaßner exemplifies this mix – the overlap of knowledges and engagements with the natural world and the functioning of the human body animating and shaping his emotions and thought.

Many of his ambitious plans were never realised, and some that were did not last long (much to his chagrin).⁹² Clearly his power and influence had limits, dependent as they were on the support of his patron.⁹³ Controversies with some of his own medical colleagues also dampened some of his schemes. Indeed, almost from the time of his first appearance at the Wittelsbach court in the early 1740s, his actions were distrusted. Accusations of malpractice, which began with the death of Charles VII, virtually never ceased through the whole of his career. Sometimes the waves of professional disagreement and personal animosities went as high as the Collegium Medicum, and von Wolter was unable to practise for months at a time because the members refused to meet under his presidency. That, under these constraints he accomplished as much as he did, is surely testimony to a remarkably tenacious and strategically minded person.

As to the question of von Wolter's support for the ex-Jesuits after his visit to Gaßner in 1774, as raised by his critics, no definite answer can yet be given, and perhaps never will be. In my opinion the visit changed nothing with regard to his religious feelings and his socio-political and professional alliances. His official position had always entailed extensive contacts with Jesuits who were not only responsible for organising Bavaria's schools and universities but also held important official positions at the Wittelsbach court. Significantly, this hardly changed after the abolition of the Society by Pope Clement XIV in the summer of 1773.⁹⁴ Unlike some other European states, which expelled and imprisoned members of the Society,

1549–1773. Ausstellung des Bayerischen Hauptstaatsarchivs und der Oberdeutschen Provinz der Gesellschaft Jesu (Munich, 1991).

92 Von Wolter's first plans go back to the year 1755. For an overview of the development of Bavarian Medizinalwesen in the eighteenth century, see Von Hoffmeister, *Medizinalwesen*. For the reason why von Wolter was not as successful as he wished to be see Peer, *Johann Anton Edler von Wolter*, pp. 152–3.

93 In his private letters he often deplored this. See, for example, GeHA Korrespondenz Akt 1712 K II 43, fol. 19, 29 July 1759: 'Man muss sich dem Willen seines Herrschers beugen, trotz der grausamen Überzeugung, dass er sich nie aendern wird' [One has to bow to the will of one's ruler despite the cruel conviction that he will never change]. For Maximilian III Joseph's tendencies to keep all political control in his own hands see Kraus, *Geschichte Bayerns*, pp. 334–41.

94 For the Jesuit Society in Bavaria after 1773 see Winfried Müller, 'Der Jesuitenorden und die Aufklärung im süddeutschen-österreichischen Raum', *Katholische Aufklärung – Aufklärung im katholischen Deutschland*, ed. by Harm Klueting et al. (Hamburg, 1993), pp. 225–45.

Bavaria allowed them to become lay priest on state pensions – such was Bavaria's need of them in its schools and universities in the mid 1770s. Von Wolter's working environment did not therefore change significantly after the suppression of the Society, nor after his visit to Gaßner in 1774. In his daily interactions with other faculty members at the University of Ingolstadt, and as the director of the medical faculty, he continued to deal with his ex-Jesuit colleagues, friends and enemies, as he had before. That his critics charged otherwise is best attributed to the fact that they were self-interested opponents, not objective observers. As such, their testimony on von Wolter's character and the use of that characterisation by chroniclers and biographers past and present, must be treated with caution if the so-called 'Bavarian Catholic Enlightenment' is ever to be unpacked. Insofar as von Wolter lies near the heart of that as-yet clouded event, accounts of his behaviour, in particular, need conscious and careful decoding. The study of figures such as him is important as it can help to peel away some of the anachronisms, distortions and misinterpretations of one of the most intellectually vibrant periods of German history. Of course we only add our own. But this is another story.

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A Medical Miracle Revisited: The Enlightenment Debate on a Miraculous Golden Tooth¹

Robert Jütte

From the second half of the seventeenth century at the latest, a process began all over Europe which can be called ‘the demythologisation of the miracle’. Natural scientists and scholars as well as philosophers and theologians made a significant contribution. *Curiositas* came to be the name for research which served only one purpose, that of discovering the truth (in the objective-empirical sense). The term curiosities no longer encompassed everything macabre or exotic, but referred only to the rare or strange phenomena that could be investigated with empirical experimental methods.

At the same time as the academies and societies of natural scientists were undertaking a close scrutiny of the miracle, scholars took up the task of giving the process of demythologisation, then just getting underway, a theoretical foundation. Not least among these scholars were Protestant theologians who criticised the Catholic belief in miracles, particularly in miracles from post-Biblical times. In 1670, for example, in an academic treatise on miracles (*Dissertatio de miraculis*), the professor of theology Sebastian Niemann (1625–84) dismissed the miraculous transposition of the Virgin Mary’s house from Nazareth to Loreto by angels as ‘inventions’² of scholarly men. Another seventeenth-century Protestant theologian, Paul Heigel (1640–90), did not confine himself to a general criticism of ‘popish credulity’, but demanded a thorough diagnosis of the miracle with the tools of natural philosophy; in his opinion, the individual branches of science (physics, optics, mechanics and medicine) were to play a role in this process of enlightenment.

Towards the end of the seventeenth century, in a Catholic chronicle of the archdiocese of Salzburg, the story of a Silesian boy who, in 1593, allegedly grew a golden tooth, could still be presented as a miracle.³ At almost the same time, this ‘curiosity’ served the critics of the belief in miracles as an opportunity to question prodigies and miraculous signs and to be on the watch for natural explanations. The first was the Dutchman Antonius van Dale (1638–1708), who was a general practitioner

1 This article is largely based upon my book ‘*Ein Wunder wie der Goldene Zahn*’. *Eine unerhörte Begebenheit aus dem Jahre 1593 macht Geschichte(n)* (Ostfildern, 2004).

2 Christoph Daxelmüller, *Disputationes curiosae. Zum ‘volkskundlichen’ Polyhistorismus an den Universitäten des 17. und 18. Jahrhunderts* (Würzburg, 1979), p. 170.

3 Franciscus and Paulus Mezger, *Historia Salisburgensis hoc est vitae episcoporum et archiepiscoporum salisburgiensium* (Salzburg, 1692), p. 664.

in Haarlem for many years, but later mainly devoted himself to theological literary studies. His best-known work is undoubtedly the critical account of the nature of the oracle; the first edition appeared in Latin in Amsterdam in 1683. This work deals chiefly with the ancient oracle, which is exposed as a superstitious practice. At the end of the fourth book, Van Dale presents an example of the continuing effect of superstition in more modern times and mentions the case which occurred in Silesia in 1593. He relies expressly on a critical account from the year 1621 by the Wittenberg professor of medicine Daniel Sennert, in which the ostensible miracle, which caused a great sensation as well as a bitter and extensive scholarly dispute towards the end of the sixteenth century, is exposed as a deception.⁴

Sennert describes the course of events in the year 1596 as follows: A goldsmith was called and ordered to rub the tooth with a touchstone. The stripe which was ground off was found to be genuine Rhenish gold. The goldsmith was not satisfied and wanted to be quite certain. He treated the sample with some aqua fortis (*aquam Stygiam*) as well as some yellow orpiment (*pigmentum aureum*), known for its corrosive effect. Thereupon, the stripe on the touchstone disappeared. This clearly suggested fraud. For this reason, the examining physician, Dr Christoph Rumbaum, took another close look at the tooth and discovered a tiny hole in its surface. He explored the opening with a spatula, suspecting that there might be a thin brass casing covering the tooth. His suspicion proved to be correct. He demonstrated to the onlookers that this tooth cap could be moved. Since the experts had never seen anything like it before, they compared this prototype of a gold crown with an everyday object well known to them: the cap reputedly looked like half of a gold-covered button which the women in Silesia wore as a decoration on their shoulder bags. The aforementioned Dr Rumbaum, Daniel Sennert's source continues, would have removed the cap from the tooth with the spatula if the swindler (about whom we regrettably learn nothing, except that he must have been a sort of impresario) had not taken to his heels with the lad. Although the evidence could not be secured, all those present were in no doubt that the golden tooth, long considered a miracle, was merely a skilful fake.

As an introduction to his own reflections on this case of an ostensible medical miracle, Van Dale makes some general comments on the fundamental principles of scientific scepticism. He reiterates the long-known requirement: first learn the facts of the case and then ask why.

Not least among the numerous attentive readers of this work, which was reprinted many times and also translated into Dutch, was the French *philosophe* and writer Bernard de Fontenelle (1657–1757), a sort of Methuselah of the early French Enlightenment. He was born in Rouen in 1657, attended a local Jesuit school and then went on to study jurisprudence. After first literary successes – at the age of 30, he had already written dramatic plays, operas, dialogues and narratives and worked on scientific subjects – he devoted himself completely to writing. In his work *Dialogues des morts* (1683), he composed dialogues between famous deceased people such as Seneca and Scarron, Socrates and Montaigne. This was the basis

⁴ Daniel Sennert, *Practicae medicinae, liber secundus* (Wittenberg, 1654), pp. 50 and following.

of his reputation as a scholar and man of letters. In 1691, he was admitted to the Académie française. He had already moved from Rouen to Paris in 1687. In his numerous writings, he presented scientific subjects in a generally intelligible form. His main work *Entretiens sur la pluralité des mondes* (1686), for example, includes a vivid elucidation of Copernicus's conception of the world.

In other writings, Fontenelle condemns superstitious tendencies in religion. One example is his history of the oracle – a polemical work, which is an expression of a new way of thinking and of a scepticism hostile to authority. In it, he refutes the opinion that the ancient oracles and prophecies were inspired by the devil or evil spirits and only came to an end with the emergence of Christianity. In the ancient oracles, Fontenelle sees the fraudulent intrigues of priests and other profiteers. Moreover, he criticised the sources and considered many a report on the oracle by Graeco-Roman authors to be untrustworthy.

Fontenelle mainly relies on the previous work of the Dutchman Antonius van Dale, but he provides more than a mere translation of it into French, as is clear from the preface. By altering Van Dale's text, rearranging chapters, shortening passages and making the argumentation more pointed, he creates his own independent work which, apart from some basic ideas and common examples, has the title in common with the original. Significantly, Fontenelle does not dispense with the story of the Silesian boy with the golden tooth. Quite the reverse: he puts it at the centre of his work, moving it from its place at the end of the original to one of the introductory chapters. Fontenelle thus makes this miraculous story the starting point of further deliberations. It serves him, among other things, as a 'topical' reference point for his criticism of the traditional perception of the oracle. Moreover, he links this with the question regarding the truth. He calls on the reader to keep on asking himself whether the stories surrounding the oracle are indeed true:

Let us first truly ensure that the narratives are founded in fact before we exert ourselves to learn what came to pass. In truth, this course is too tedious for many people, who immediately settle upon the investigation of the causes and pass over the truth of the story. But we do not want to make ourselves as ridiculous as those who invent the causes of a thing which does not exist. This misadventure happened to some scholars in Germany at the end of the previous century in such a comical way that I cannot refrain from telling it.⁵

This is followed by a detailed report of the case, a word-for-word reproduction of Van Dale's account:

In the year 1593, the report went round of a child in Silesia whose teeth fell out in his 7th year, and in the place of a molar a new golden tooth grew. Horst, a professor of the medicinal arts in Helmstedt, wrote in the year 1595 a history of this tooth and alleged that it came about in part naturally, in part supernaturally: indeed, God had caused the tooth to grow so that the Christians, hard pressed by the Turks, should be comforted by it.

5 Bernhard von Fontenelle, *Historie der Heydnischen Orackel. Darinn aus dem Lateinischen Werke des berühmten van Dalen ein kurtzer Auszug enthalten ist*, trans. Joh. Christoph Gottsched (Leipzig, 1730), pp. 20 and following. These translations are by the author.

Only imagine what a comfort that was and what the tooth had to do with Christians and Turks. In the same year, Ruland too wrote a history of this golden tooth, so that it should have no lack of chroniclers. Two years later, Ingolstetter, another scholar, contradicted the opinion Ruland had given of the tooth; and Ruland at once made a fine and learned reply. Another great man, with the name Libau, collected all that had already been written on the tooth and added his own thoughts. With such fine writings, there was nothing more to add, save that it was untrue that the tooth was really of gold. When a goldsmith examined it, he found that it was nothing more than a gold leaf which had been pasted over the tooth with great skill. First, books were written, and only as a last step was the goldsmith consulted.⁶

The case thus serves Fontenelle as an illustrative example for his premise. In his opinion, the miraculous story from Silesia shows what impartiality and critical inspection can achieve. Applied to the oracle, this means in his own words: 'So when one looks at things somewhat more closely, it is found that the oracles that seem so wondrous to us never were oracles.'⁷

With his open-minded and sceptical attitude, Fontenelle was a significant forerunner of the Enlightenment.⁸ No less a man than Voltaire expressed approbation for Fontenelle's writing and recognition for his relentless fight against superstition and the belief in miracles.⁹ And so it comes as no surprise that a French dentist who presented to the public the gold crown he had developed in 1746 knew the story of the boy with the golden tooth (presumably not directly from Van Dale, but via Fontenelle's free rendition in French). Until today, extracts from Fontenelle's writing on the oracle have their place in the canon of the French classics and are taught and studied at school and university. Even a brief biographical note on Fontenelle in the well-known encyclopaedia *Grand Larousse* mentions the instructive story of the golden tooth.¹⁰ And so this curious incident from the age of the Turkish wars was destined to become more than just a footnote in the history books. Via Fontenelle, it entered the annals of French – and thus also European – literary history.

Yet another representative of the early Enlightenment, the French publisher and philosopher Pierre Bayle (1647–1706), also cites the story of the boy with the golden tooth as proof of the necessity of inquiry as opposed to blind belief. As is well known, the sceptic Bayle fought any and every dogmatism in philosophy. He demanded that ethical problems be dealt with by reason alone, for he considered belief and knowledge to be incompatible. In particular, Bayle's *Dictionnaire historique et critique* (1697), containing numerous concepts and proper names, had great influence on the European Enlightenment. The work was intended not to pass on knowledge, but to present the history of misapprehensions in the search for truth. Under the heading 'Horstius, Jacob' is the following comment (from the translation into German by Johann Gottfried Gottsched): 'We wish to remark that he [Horstius, R.J.] allowed himself to be grossly deceived by the fictitious tooth. This

6 Fontenelle, *Historie der Heydnischen Orackel*, pp. 21 and following.

7 Fontenelle, *Historie der Heydnischen Orackel*, p. 33.

8 Werner Krauss, *Fontenelle und die Aufklärung* (Munich, 1969), p. 26.

9 François-Marie Arouet, known as Voltaire, *Œuvres* (Paris, 1878), vol. 16, p. 137.

10 *Grand Larousse encyclopédique* (Paris, 1962), vol. 5, p. 108.

was a simple deception and to find out how it was revealed, one only has to read Van Dale's last chapter of the first Book de Oraculis.¹¹ Here then is proof that Bayle not only knew Van Dale's criticism of the ancient oracles – he wrote a review of it in the periodical *Nouvelles de la République des lettres* (No. 4, February 1687) shortly after its appearance – he was also acquainted with the short work of the Helmstedt doctor Jakob Horst on the golden tooth.

The observation of the translator is also interesting in this connection: he, too, was an erudite man and made a name for himself as a theorist of the art of poetry. Gottsched states that Bayle evidently did not know the contemporaries of Jakob Horst who had spoken up in the discussion on the authenticity of the golden tooth. Gottsched mentions Martin Ruland, Johann Ingolstetter and Andreas Libavius by name. However, Gottsched has nothing but derision for their literary feud, which filled hundreds of pages: 'It is an eternal pity about the fine writings, investigations, causes and meanings that were produced, carried out and invented about this tooth. Somewhat too late did one start to see whether it really was a golden tooth.'¹² He strikes the same note as Fontenelle, who, incidentally, is expressly mentioned at this point as the source.

At almost the same time, towards the end of the seventeenth century, as representatives of the early Enlightenment in France and the Netherlands were discovering the story of the boy with the golden tooth as an outstanding example for the practical application of scepticism, the indiscriminating attitude to the spread of this miraculous tale became the subject of a literary debate in Germany as well. The forum for discussion was the *Monatliche Unterredungen* (later re-named *Curieuse Bibliothec*) – a periodical that not only printed book reviews but, as the subtitle has it, wanted to serve 'all lovers of curiosities for their amusement'. The editor was the polyhistor Wilhelm Ernst Tentzel (1659–1707), who was the first to publish a periodical review in German after the French model. In May 1689, the Silesian chronicle of Friedrich Lucae was announced in the periodical, and the short report it contained on the boy with the golden tooth was, of course, included. Two months later, the publisher felt obliged to comment on this note in the chronicle in the form of a literary dialogue. Among other things, the question is debated why the Silesian chronicler Lucae related the transformation of the golden tooth, but made no mention that the fraud had been exposed. One argument was that he probably did not know Daniel Sennert's account as reported by Antonius van Dale. The fact that other writers and chroniclers (Eberhard Werner Happel, for example, is mentioned by name) had not been too particular about the truth is also put forward as a further exoneration of Lucae. Their curiosities were nothing more than a 'hotchpotch of sundry stories / be they true or untrue / correct or incorrect'.¹³

11 Pierre Bayle, *Historisches und Kritisches Wörterbuch nach der neuesten Auflage von 1740 ins Deutsche übersetzt...*, trans. Johann Christoph Gottsched (Leipzig, 1742), vol. 2, p. 839.

12 Bayle, *Historisches und Kritisches Wörterbuch*, vol. 2, p. 839.

13 *Monatliche Unterredungen Einiger Guten Freunde Von Allerhand Büchern und annemlichen Geschichten Allen Liebhabern der Curiositäten Zur Ergetzlichkeit und Nachsinnen*, ed. N.O. Julius (1689; Leipzig, 1690), p. 741.

Some years later, the editor of the *Curieuse Bibliothec* took the subject up again. Apparently, a Catholic scholar had ridiculed the fact that the miracle of the tooth had been circulated by the Protestant faction. In rebuttal, it is mentioned that more than a few of his Catholic brothers in faith had refused to notice the swindle. As the most recent proof for this thesis, reference is made to the Mezger brothers' chronicle of the archdiocese of Salzburg.¹⁴ This subsequent statement of the editor makes it clear that, as early as the end of the seventeenth century, the story of the boy with the golden tooth had become the subject of criticism, based on creed, of superstition and the belief in miracles.

In the eighteenth century as well, denominational aspects played no small role in the discussion of the alleged miracle of the tooth. This is already hinted at in the retort to Fontenelle's criticism of the nature of oracles penned by the French Jesuit father Jean-François Baltus (1667–1743). He retaliated to the French *philosophe*'s vehement criticism of superstition by stating that scholars were easy to delude, but that the general populace was no less gullible. In this connection, Baltus refers to the case of 1593 mentioned by Fontenelle of the boy with the golden tooth which, in his opinion, is an instance of 'ridiculous stories and tales' ['histoires et contes ridicules']. To his mind, this example shows how easily many able people had allowed themselves be deceived.¹⁵ Significantly, Baltus too speaks of a fraud and not of a miracle. He disagrees only in that Fontenelle sees in this story confirmation of his criticism of the credulity and superstitiousness of the people in general and disregards the scholarly world.

The eighteenth-century French physician and ardent Catholic, François de Saint-André (active 1677–1725), expresses himself similarly. He is put forward by his German translator, Theodor Arnold, as a chief Catholic witness against the belief in miracles.¹⁶ In this context, Arnold, gripped as he was by the spirit of the early Enlightenment, refers to the lasting success which the Scottish philosopher Francis Hutcheson (1694–1746) then enjoyed in Germany as well with his theory that moral sense is based on reason. Arnold sees his translation of the letters of the French physician, dedicated to Hutcheson, as a contribution to a more critical attitude towards magic and miracles. Thus, the story of the boy who allegedly grew a golden tooth must, of course, take its place in Saint-André's collection of 'Rogueries and Frivolities'. The author expresses his astonishment that, at the end of the sixteenth century, reputable scholars had been taken in by a 'fabricated matter' and had considered the golden tooth to be 'an irrefutable truth'.¹⁷ Saint-André draws his conclusions about how to deal with such sensational reports: 'In particular, one should regard those as suspect that are told by people who are credulous and governed

14 *Curieuse Bibliothec, Oder Fortsetzung der Monatlichen Unterredungen Einiger Guten Freunde Von Allerhand Büchern und annehmlichen Geschichten Allen Liebhabern der Curiositäten Zur Ergetzlichkeit und Nachsinnen*, ed. Wilhelm Ernst Tentzeln (1689; Frankfurt and Leipzig, 1704), p. 763.

15 Jean-François Baltus, *Suite de la Réponse à l'histoire des oracles* (Strasbourg, 1708), p. 334.

16 François de Saint-André, *Lesenswürdige Briefe an einige seiner Freunde über die Materie von der Zauberey*, trans. Theodor Arnold (Leipzig, 1727), Preface A iv (r).

17 Saint-André, *Lesenswürdige Briefe*, p. 27.

by prejudices; and one must examine them well before placing belief in them'.¹⁸ Here, then, the French doctor and his German colleague Sennert are in complete agreement, although the latter reached this verdict 100 years earlier.

An attack on the belief in miracles came from Protestant circles in 1735 via the Brandenburg-Prussian theologian Georg Wilhelm Wegner (1692–1765) who, under the pseudonym Tharsander, wrote a work entitled *Schau-Platz vieler Ungereimten Meynungen und Erzehlungen*. In it he describes people's addiction to miracles and examines the belief in prodigies.¹⁹ He cites numerous examples of how alleged miraculous signs (earthquakes, floods etc.) can be explained by natural causes. In this connection, Wegener mentions a miraculous sign, 'which caused a great sensation and much talking and writing, but finally turned out to be a deception',²⁰ that is, the story of the golden tooth. As his source, he names Saint-André's *Letters on Sorcery* as well as the curiosities collected by Happel, whom we also already know.

The inter-denominational quarrel on miracles still continued in the nineteenth century, without, however, express reference to the story of the boy with the golden tooth. Evidently, the conclusion had been reached that this curious tale was not a suitable subject for a fundamental debate on the Protestant repudiation of the Catholic belief in miracles. Otherwise, the Protestant side could itself have been accused of having long believed in all kinds of miraculous signs.

In 1771, the French philosopher and representative of the Enlightenment Voltaire (1694–1778) wrote to the Prussian king Frederick the Great (1712–86): 'You certainly do not believe in miracles' ['Vous ne croyez point aux miracles']. Indeed, the Prussian ruler was not impressed by miraculous signs, as we learn from a letter written in 1799 from the Silesian Silberberg to his friend Heinrich Alexandre de Catt (1725–95).²¹ Frederick the Great had observed the Northern Lights, traditionally construed as a portent of calamities such as war, fire or illness.²² Although the true origins of this celestial phenomenon were still unknown in the eighteenth century, a great number of explanations based on natural causes had already been put forward. We do not know which of these many contemporary theories Frederick the Great was familiar with. He accounts for his scepticism by pointing out to Catt that he is the pupil of Pierre Bayle and thus encounters such a superstition calmly and composedly. In another letter to his brother Henry, Frederick denounces superstition as a 'plague' for every society.²³ And in a letter of 27 July 1775 to Voltaire, the Prussian ruler calls healing by the laying on of hands, as then still practised by the

18 Saint-André, *Lesenswürdige Briefe*.

19 Georg Wilhelm Wegner [Pseudonym: Tharsander], *Schau-Platz vieler ungereimten Meynungen und Erzehlungen* (Berlin and Leipzig, 1735), pp. 214 and following.

20 Wegner, *Schau-Platz*, p. 228.

21 Frédéric le Grand, *Œuvres*, ed. Johann David Erdmann Preuß (Berlin, 1853), vol. 24, p. 28.

22 Michaela Schwegler, 'Erschröckliches Wunderzeichen' oder 'natürliches Phänomenon'? *Frühneuzeitliche Wunderzeichenberichte aus der Sicht der Wissenschaft* (Munich, 2002), pp. 74 and following.

23 Frédéric le Grand, *Œuvres*, vol. 26, p. 549.

kings of France, a 'so-called miracle'.²⁴ Incidentally, Fontenelle is cited in this letter, although in a different connection. Other passages in the correspondence between Frederick the Great and Voltaire testify to their common admiration for the literary work of the pioneer of the European Enlightenment.

A key sentence to understanding the drive for enlightenment which the Prussian ruler showed throughout his life can also be found in the correspondence with Voltaire:

In the provinces [i.e. Silesia] over which an accident of birth has given me sovereignty, my main occupation consists of fighting the ignorance and the prejudices, enlightening the minds, building up the morals and attempting to make the people as content as is compatible with human nature and is possible with the means at my disposal.²⁵

Silesia had also been one of those provinces since 1740.

On his regular trips through Silesia, Frederick usually stopped in Breslau.²⁶ In 1779, he met the schoolmaster and scholar Johann Casper Arletius (1707–84) there. The meeting occurred through an intermediary, one Herr von Paczinsky, presumably identical to Georg Friedrich Wilhelm Paczensky, a senior official in the Silesian government. The subject of the discussion was the story of the boy with the golden tooth which had taken place in a small Silesian village almost 200 years previously. What it was exactly that the Prussian king wanted to know from the outstanding expert on Silesian history is unfortunately not to be found in the only source handed down to us: the life story of Arletius.²⁷ Nor do we know when and how Frederick the Great became acquainted with this story, here already called a 'legend'. In all likelihood, he came across it while reading Fontenelle, one of his favourite writers. But since the 'philosopher of Sanssouci' was, as we know, a music lover and keen flautist, the first reference may have come from Jean-Jacques Rousseau's *Lettre sur la musique* (1753).²⁸ There, the story of the boy with the golden tooth is wittily used to call for a critical approach to national characteristics in music, put loosely: Before we determine the value of French music, we have to be sure it actually exists!

It is also remarkable that Frederick the Great also sought information on this matter from a philosopher, Christian Garve (1742–98), born in Breslau. What this respected scholar and professor had to tell the king also remains unknown.

The fact that Frederick the Great begins to conduct enquiries into this miraculous story as late as 1779 is also striking. This could be linked with a project with which

24 Friedrich der Große, *Briefwechsel Friedrich des Großen mit Voltaire*, vol. 3: *Briefwechsel König Friedrichs 1753–1778*, ed. by Reinhold Koser and Hans Droysen (Leipzig, 1911), p. 349.

25 Friedrich der Große, *Briefwechsel Friedrich des Großen mit Voltaire*, p. 191.

26 Ernst Pfeiffer, *Revueisen Friedrich des Grossen besonders die Schlesien nach 1763 und der Zustand Schlesiens von 1763–1786* (Berlin, 1904; reprint Vaduz, 1965), pp. 44 and following.

27 Johann Ephraim Scheibel, *Lebenslauf des Weyland Herrn Johann Caspar Arletius* (Breslau, 1789), p. 21.

28 Jean-Jacques Rousseau, 'Lettre sur la musique française', *Œuvres complètes* (Paris, 1857), vol. 4, p. 411.

the French philosopher Jean d'Alembert (1717–83) had approached the Prussian king in 1777. He proposed that the Berlin Academy of Sciences pose the following prize question: 'Can any kind of deception be beneficial to the people if it consists of inducing new misapprehensions or allowing the old entrenched ones to persist?'²⁹ In all, 42 essays were entered, of which 33 were admitted to the competition. Twenty answered the question in the negative, 13 in the affirmative, some with and some without reservations. In the end, the prize went equally to the best essay with a negative and the best with an affirmative answer.

The story of the boy with the golden tooth is thus an example of d'Alembert's conjectured persistence of 'old misapprehensions'; for it lived on, as Frederick the Great must have discovered in his enquiries, in the collective memory of Silesia – often as a miracle, as local legends and myths eloquently testify.

29 J.D.E. Preuß, *Die Lebensgeschichte des großen Königs Friedrich von Preußen. Ein Buch für Jedermann* (Berlin, 1834), vol. 2, p. 133.

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Between Anatomy and Religion: The Conversions to Catholicism of the Two Danish Anatomists Nicolaus Steno and Jacob Winsløw

Ole Peter Grell

Danish Anatomy in the Seventeenth Century

In April 1760 the Danish anatomist Jacob Benignus Winsløw (Jacques Bénigne Winsløw) died in Paris. With his death the line of famous Danish anatomists which had begun with Caspar Bartholin, the elder, came to an end. Like Bartholin, Winsløw was born into a family which had already produced a number of clergymen serving the Lutheran Church in Denmark. Winsløw's father, like Bartholin's, was a Lutheran minister, and both Jacob Winsløw and Caspar Bartholin had originally been destined to follow in their fathers' footsteps, starting their university careers by studying theology. But both quickly switched from theology to medicine, and both made considerable efforts to improve the study of medicine while producing anatomical textbooks which achieved European fame.

Bartholin first published his *Institutiones anatomicae* in Wittenberg in 1611, which went through many subsequent translations and re-editions, most famously his son Thomas Bartholin's illustrated and revised edition which was published in Leiden in 1641.¹ Jacob Winsløw published his famous *Exposition anatomique de la structure du corps humain* in Paris in 1732, a work which eventually saw no fewer than 32 editions in a number of European languages, including Latin.² Both works proved particularly popular handbooks among medical students and surgeons for decades.

The similarities between the two men were not limited to background and education, including their visits to foreign universities, nor to medical and anatomical interests, but also included the deep and personal religious engagements they retained throughout their lives.

But, despite the many similarities, important differences exist between them. Bartholin returned to his fatherland following his *peregrinatio academica* to take up a professorship at the University of Copenhagen, having obtained his MD in Basle, only to be promoted to one of the chairs in medicine in 1613, as far as we

1 See O.P. Grell, 'Caspar Bartholin and the education of the pious physician', in Ole Peter Grell and Andrew Cunningham, *Medicine and the Reformation* (London, 1993), pp. 78–100.

2 *Dansk Biografisk Leksikon* (Copenhagen, 1978) [henceforward *DBL*].

know, after having rejected better offers from Catholic Naples and Calvinist Sedan.³ Winsløw, like Bartholin a century earlier, was originally sponsored by many of the leading figures within the University of Copenhagen, when in 1697 he set out on his foreign travels, having received a Royal stipend. But he never returned. After having spent a year in Holland Winsløw moved on to Paris. In 1699, having spent a year in the French capital, Winsløw converted to Catholicism. He consequently lost his Danish stipend but, supported by Bishop Jacques-Bénigne Bossuet and other Catholic benefactors, he eventually was able to obtain his medical qualifications at the University of Paris in 1705 and subsequently began a successful practice in Paris. As opposed to Winsløw, Caspar Bartholin's travels served to enhance his Lutheran faith along pre-Pietist lines, drawing on the writings of people such as Arndt and Gerhardt, who saw themselves as fulfilling the Reformation Luther had started. It was such views which inspired Caspar Bartholin to vacate his chair in medicine in 1624 in order to take up a chair in theology. Winsløw's travel, on the other hand, first led him to abandon the faith he had been brought up in for Catholicism, resulting in total estrangement from his orthodox Lutheran parents, and then eventually his citizenship, when he became a naturalised Frenchman in August 1732.⁴

I have argued elsewhere for the importance of Lutheranism in the creation of a new and dynamic faculty of medicine with a strong interest in anatomy in Copenhagen in the wake of the Reformation, and undoubtedly this commitment to Lutheranism and the Protestant Reformation also remained part of the make up of Caspar Bartholin's immediate successors such as Ole Worm and his son, Thomas Bartholin. But for religion, once again, to take precedence over medicine among the leading Danish anatomists of the day we have to move from Caspar Bartholin at the start of the seventeenth century, not to the Enlightenment and Jacob Winsløw in the first instance, but to his grand-uncle Nicolaus Steno (Nils Stensen), who not only converted to Catholicism in 1667, two years before the birth of his grand-nephew, but eventually received priestly ordination. Evidently the Lutheranism both Steno and Winsløw encountered in their upbringing and early education proved less durable than that which had inspired Caspar Bartholin a couple of generations earlier. It certainly proved no safeguard against a Counter-Reformation Catholicism which appears to have remained vibrant well into the eighteenth century.

But how did this transformation come about and why? Why did the leading lights of early Enlightenment Danish anatomy abandon the Lutheranism which had motivated their predecessors a century earlier and what effects, if any, did it have on their anatomy? These are the main questions I shall seek to answer in this chapter.

In both conversions Paris and the French Counter-Reformation played a prominent part, while the figure of one of the leading Catholic theologians of the day, Jacques-Bénigne Bossuet, the scourge of Enlightenment Protestantism, loomed large. The two conversions, however, had very different consequences. In the case of Steno, it resulted first in a changed perception of the nature and role of anatomy, which eventually caused him to abandon what had been his main interest, while in the case of Winsløw his conversion to Catholicism appears to have held little or

3 Grell, 'Caspar Bartholin', pp. 93–4.

4 E. Snorrason, *Anatomen J.-B. Winsløw 1669–1760* (Copenhagen, 1969), p. 18.

no impact on his anatomy, which remained compartmentalised from his religious undertakings.

Steno's conversion to Catholicism attracted considerable public interest from the outset, not least because of his international reputation as a leading natural philosopher and anatomist, and it has continued to fascinate Steno scholars.⁵ Jacob Winsløw's conversion in 1699, however, attracted little immediate interest, apart from his family and friends, because Winsløw was then a little-known student, and subsequently has only generated moderate interest among historians.⁶

Steno's conversion, not surprisingly, became from the outset part of the confessional polemic between Catholics and Protestants. Even modern scholarship has found it impossible to move away from a confessional approach to Steno's conversion. For Catholic scholars, who constitute the overwhelming majority, Steno's conversion has tended to be seen as unproblematic and a natural and logical outcome for a spiritually inquisitive mind. For non-Catholic scholars the conversion has been seen as enigmatic, a riddle, which can only be explained by hidden influences such as the power of the Jesuits, or greed, or a psychological or sexual crisis.⁷ The latest interpretation of Steno's conversion argues that the different interpretations only partly reflect pre-conceived views and confessional bias, but to a much greater extent are rooted in the problematic nature of the sources, which were all written some time after the event, often a decade or more later, and which have so far only received little critical and systematic interpretation. I am, however, not convinced that this interpretation achieves much more than those which have gone before it, nor am I convinced that the thesis – that Steno did not convert to Catholicism from the orthodox Lutheranism of his childhood, but rather from a Deism which he is supposed to have acquired while studying in the Netherlands – has any solid basis in the sources.⁸

In fact, what all this scholarship has in common, be it written by Catholic or non-Catholic scholars, is its narrow focus on sources which exclusively reflect purely religious issues. They all separate Steno's anatomical and natural philosophic undertakings from his faith. As opposed to them, I propose to see Steno's faith and his natural philosophy as mutually interdependent. In other words Steno's religious views cannot, in my view, be separated from his anatomy or natural philosophy. Only by seeing them as part and parcel of the same issue can Steno's conversion be properly understood.

5 See the most recent work on Steno's conversion: S. Olden-Joergensen, 'Die Konversion Niels Steensens (1667) und der fruhneuzeitliche Deismus', *Historisches Jahrbuch* 121 (2001): 97–114.

6 See Snorrason, *Anatomen J.-B. Winsløw*.

7 Olden-Joergensen, 'Die Konversion Niels Steensens', p. 99.

8 Olden-Joergensen, 'Die Konversion Niels Steensens', pp. 100–14. If we consult Steno's earliest statement about his conversion, his letter to Lavinia Arnolfini, undated but generally assumed to have been written in 1668, a year after his conversion, it is evident that Steno sees his own conversion as one from Lutheranism to Catholicism, see E. 36 in G. Scherz (ed.), *Nicolai Stenonis epistolae*, 2 vols (Copenhagen, 1952).

The Conversions of Steno and Winsl w

Let us begin with Nicolaus Steno. Born into a well-to-do goldsmith family in Copenhagen in 1638, Steno received the best secondary education available in Copenhagen, before matriculating at the University of Copenhagen in 1656. That he chose medicine might well have been due to his closeness to the Paulli family. Steno later recorded that he had been brought up together with Jacob Henrik Paulli, son of the professor of medicine Simon Paulli, who had been the first professor of anatomy at the University of Copenhagen (1639–48), and later as Royal Physician was renowned for his book on botany, *Flora Danica* (1648).

At the medical faculty Steno was taught by Thomas Bartholin, by then the leading professor of medicine in Copenhagen, but a far greater influence on the young Steno proved to be Thomas's brother, Rasmus Bartholin, who after years of study abroad returned to Copenhagen in 1657. Rasmus was a prominent mathematician, a follower of Descartes, and a physician.⁹

Steno studied for three years at the University of Copenhagen. Despite attending university at a particularly traumatic time in the country's history, with Swedish troops occupying most of Denmark from 1657 until 1660, and personally experiencing the attempt by besieging Swedish forces to take Copenhagen by storm in February 1659, it would appear from Steno's own notes taken during 1659 that he was well taught and well-acquainted with both recent and classical literature, benefiting from both private dissections and experiments. Bearing in mind that formal lectures and teaching at the University of Copenhagen were suspended for considerable periods during this time due to the Swedish siege, this is particularly impressive and speaks volumes for Steno's diligence.¹⁰ Steno's notes from 1659 are nearly exclusively about scholarly activity, with copious references from the relevant literature and to experiments, but occasionally they provide insight into his religious position. Thus on 30 March 1659 after several observations on the animal world Steno stated:

One sins against the majesty of God by being unwilling to look into nature's own works and contending oneself with reading others; in this way one forms and creates for oneself various fanciful notions and thus not only does one not enjoy the pleasure of looking into God's wonders but also wastes time that should be spent on necessities and to the benefit of one's neighbour, and says many things which are unworthy of God.

Such are those Scholastics, such are most philosophers and those who devote their whole lives to the study of logic. Time is therefore not to be spent on explaining and defending, indeed scarcely on examining them, and one must not boldly and impetuously assign anything to **art** on the basis of observing a single thing. From now on then I shall spend my time, not on musings, but solely in investigation, experience and recording of

9 See T. Kardel, *Steno. Life-Science-Philosophy with Niels Stensen's Prooemium*, Acta Historica Naturalium et Medicinalium 42 (Copenhagen, 1994), pp. 10–11; and H. Kermit, *Niels Stensen. The Scientist who was Beatified* (Leominster, 2003), pp. 14–17.

10 Steno's student notes, the so-called 'Chaos manuscript', begun in March 1659, has been published and translated into English by A. Ziggelaar, *Chaos: Niels Stensen's Chaos Manuscript Copenhagen, 1659*, Acta Historica Naturalium et Medicinalium 44 (Copenhagen, 1997).

natural objects and reports of the ancients on the observation of such things, as well as in testing out these reports, if that be possible.¹¹

For the young Steno the way to a better understanding of the natural world – God’s Creation – was via personal investigations through experiments and observations. This was his God-given obligation. Not to do so would be sinful. Furthermore, such investigations were not for the personal glory of the scholar undertaking them, but for the greater benefit of mankind: one’s neighbours. Caspar Bartholin, the elder, would have agreed wholeheartedly with the young Steno in what can only be considered a deeply Protestant and utilitarian motivation for inquiries into Nature.

A few days later on Easter Sunday 1659 Steno made a note which further illuminates his religious views:

The Lord’s name be blessed for ever. Always and everywhere one ought to seek occasion to observe and something to imitate so that it conduces to a pious, seemly and prudent way of life, for the present or for the future. If ever God makes me father of a family, then with my whole house I shall praise God on feast days and on the eve of them with prayers and hymn-singing and find my joy in it. Yea, each morning and evening but not with many nor long, yet adequate [prayers]. If my means accord with my wishes, I shall always, as a rich man [?], [give] the poor a meal, others as a rich man [?] the necessary clothes, stockings [?, books? socks?], etc.[?] but not money.¹²

This might as well have been a description of the ideal Protestant family – only readings from the Bible are not specifically mentioned by Steno, but otherwise the emphasis on daily prayers, hymn-singing and the focus on charity were all emblematic for the godly, Protestant family. This was exactly the type of family life which Caspar Bartholin, the elder, had sought to emulate a couple of generations earlier. Bartholin had reputedly been presiding over a pious household, where psalms were sung and chapters from the Bible were read to the assembled household, while the *pater familias* underlined the general obligation of all family members to live active and pious lives.¹³

Some weeks later, on Ascension Day, Steno expanded on his observations on the Protestant family:

If ever God should make me the head of a family, I shall do my best that neither I nor my wife nor our children dress in clothes which outdo the manner of life of the most honest and modest people, and that we, whether I, my wife or my children, do not accustom ourselves to any but the most healthy way of life, and that my children right from their birth when they begin to speak are brought up so that no time is wasted, that my daughters are guided in all honesty and grow accustomed to modesty, and that I, by constantly during meals or in other ways telling them about and criticizing vices of our acquaintances, may keep my own family from them, etc.¹⁴

11 Ziggelaar, *Chaos*, pp. 159–60.

12 Ziggelaar, *Chaos*, p. 169.

13 Grell, ‘Bartholin’, p. 79.

14 Ziggelaar, *Chaos*, p. 277.

Clearly, Steno had a strong puritanical streak, emphasising the significance of industry within the family, not to mention modesty in attire. His plans for moralising lectures at mealtimes, pointing out the moral shortcomings of prospective family acquaintances, however, strikes the modern reader as less than charitable.

Towards the end of 1659 Steno left Copenhagen in order to improve his education abroad. He spent the next three years in Holland (1660–3), primarily in Amsterdam and Leiden under the tuition of some of the leading anatomists of the day. Here his dissections initially led him to new discoveries of the glands in the mouth, nose and eyelids. His subsequent publications about these discoveries (1661 and 1662) served to make Steno a household name among anatomists across Europe, but they also drew him into what he considered to be unpleasant controversies.¹⁵ Consequently, Steno briefly appears to have abandoned dissections and anatomy, but he took up the knife again after the posthumous publication of Descartes's *Treatise of Man* (Leiden, 1662) added new interpretations on the function and role of the heart and the brain, which Steno found questionable. That these organs were also widely interpreted as the possible seats of the soul would have served to make them particularly attractive for Steno to dissect. Writing to Thomas Bartholin in Copenhagen in April 1663 he informed his old teacher that 'I will, I believe, be able to provide conclusive evidence of the fact that there is nothing in the heart that is not in the muscle.'¹⁶ Steno expanded on this in his work on the heart, *De musculis et glandulis observationum specimen*, published the following year, where he concluded that he was convinced both by reason and experience beyond all doubt that the heart was nothing but a muscle. The heart could in other words no longer be considered a separate substance 'as the Fire, the seat of innate Heat and the Soul; or the Procreator of some certain Humour, as of the Blood, any more than the Produce of certain Spirits called vital'.¹⁷

In his *Treatise on Man* Descartes had also written about the relationship between the body and the soul. The presence of a small gland, the so-called pineal body, in the human brain was, according to Descartes, the link between body and soul, and exclusive to humans. Animals, of course, had no souls and functioned purely as machines. Already by March 1663 Steno in one of his many dissections of animals had observed the pineal body in a horse and concluded in a letter to Thomas Bartholin that 'the clever and plausible hypothesis regarding the animal brain' launched by Descartes struck him as implausible.¹⁸ Reflecting on his interest in Descartes a decade later in his letter to the Calvinist minister Johannes Sylvius, Steno attributed his rejection of Cartesianism to God's Providence, implying that God had directed his anatomical undertakings which eventually made him see the error of his ways and reject the ideas of Descartes.¹⁹

Steno briefly interrupted his studies abroad and returned to Copenhagen in 1664 on account of the death of his stepfather, followed by that of his mother half a year later. Subsequently Steno received some of his inheritance and was able to continue

15 Kardel, *Steno. Life-Science-Philosophy*, pp. 18–22.

16 Letter of 30 April 1663 to Thomas Bartholin, cited in Kermit, *Stensen*, p. 31.

17 Cited in Kardel, *Steno. Life-Science-Philosophy*, p. 30.

18 Cited in Kardel, *Steno. Life-Science-Philosophy*, p. 31.

19 Scherz, *Nicolai Stenonis epistolae*, E. 63.

his *peregrinatio academica*. He arrived in Paris in November 1664 and received his MD *in absentia* from the University of Leiden the following month.²⁰ He spent a year in France benefiting from the patronage of Melchisedec Thévenot, a wealthy humanist with excellent contacts to the court of Louis XIV, who provided financial support for a number of talented young scholars.²¹

It might well have been in one of Thévenot's houses that Steno encountered the prominent Catholic clergyman Jacques-Bénigne Bossuet, who was later to become tutor to the Dauphin and ultimately Bishop of Meaux. Bossuet may well have influenced Steno's subsequent conversion to Catholicism before later playing a prominent role in the conversion of Steno's grand-nephew, Jacob Winsløw. Steno appears to have met Bossuet on several occasions when they discussed religious issues. Bossuet clearly hoped to convince Steno to convert to Catholicism, and while acknowledging that 'the hour of Grace', as he put it, had not yet arrived, he promised Steno that he would pray for him often. To which Steno is supposed to have replied that he was grateful, and that he had never encountered so many good people as among Catholics. The fact that he withstood Bossuet's pressure to convert did not appear to have affected Bossuet's high opinion of Steno, upon whom he continued to lavish praise.²²

Educated at the Jesuit College in Dijon, Bossuet took a considerable interest in natural philosophy and medicine, as can be seen from one of the tracts he composed for the instruction of the Dauphin, *Traité de la connaissance de Dieu et soi-même* (1677). This book offers a comprehensive survey of the then most recent results and theories in natural philosophy and medicine. It reproduced, for instance, Steno's view of the heart as being only a muscle and his discoveries of the glands and their function. In the 1670s Joseph-Guichard Duverney, professor in anatomy and surgery at the Jardin du Roi, who later became the main teacher and promoter of Steno's grand-nephew Jacob Winsløw, performed anatomical demonstrations and dissections at Saint-Germain or Versailles for a group of the Dauphin's interested courtiers, among them Bossuet, who 'were very knowledgeable and capable of making judgements even on matters new to them'.²³ The fact that Bossuet clearly was very knowledgeable about anatomy and natural philosophy, while being a prominent Catholic theologian with considerable insight into the Protestant theologies of the day, would have made him a figure of considerable interest to the young Steno.

Bossuet was also a renowned Biblical scholar who worked energetically for Christian unification— a preoccupation which he shared with the Protestant mathematician and philosopher Gottfried Wilhelm Leibniz, with whom he later corresponded at length on the matter. Despite such irenic streaks, Bossuet was

20 Kardel, *Steno: Life-Science-Philosophy*, pp. 31–2.

21 For the cultural and religious milieu of seventeenth-century France, see H. Phillips, *Church and Culture in Seventeenth-Century France* (Cambridge, 1997), especially chapters 5 and 6.

22 R. Cioni, *Niels Stensen Scientist-Bishop* (New York, 1962), p. 45 and G. Scherz, *Pionier der Wissenschaft. Niels Stensen in seinen Schriften* (Copenhagen, 1963), p. 41.

23 I should like to thank Andrew Cunningham for this reference, see G.-J. Duverney, *Traité des maladies des os* (Paris, 1751), 'Eloge de M. Du Verney', p. xcxi.

a zealous Catholic who had spent many years in Metz in controversy with local Huguenots whom he sought to convert. Later, in 1668, he was responsible for the conversion of one of the leading Huguenots, Marshal Turenne. Bossuet's Catholicism was, however, also deeply influenced by the leading light of the French Counter-Reformation, Vincent de Paul, who had been instrumental in retaining Bossuet as a preacher in Paris. Consequently, many of Bossuet's sermons, reflecting the theology of Vincent de Paul, advocated the need to care for the poor, sick and ignorant. In other words charity and healing were missionary avenues along which the Catholic faith might be promoted and souls saved.²⁴

According to Steno, his experiences in Paris in 1665 set in motion his conversion to Catholicism two years later. Writing to Thévenot in 1679 he pointed out that: 'Among the people through whom God has shown his mercy to me ... your position is assured, through the friendship you brought about between Miss Perriquet and I. That is why I include you every day in my prayers.'²⁵ Marie Perriquet, a cousin of Thévenot, who had belonged to the circle of Pascal, often conversed with Steno about religious matters and was, according to Steno, instrumental for his understanding of Catholicism. She appears to have been the first of a number of prominent Counter-Reformation women who came to influence or guide Steno towards his conversion. Through her Steno was introduced to a fellow Dane, Elizabeth Ranzau, who had become the prioress of a Parisian convent, with whom he also discussed faith-related issues during his stay, especially the significance of the Eucharist.²⁶ These ladies were the first of a number of Catholic women who proved highly significant in Steno's spiritual journey towards conversion. That Steno first appears to have encountered such religiously committed, Catholic women in France is hardly surprising bearing in mind that the effects of the Catholic Counter-Reformation had only begun to make an impact here at the beginning of the seventeenth century, when the Wars of Religion were finally coming to an end. In France the role of women in the subsequent Catholic revival proved very significant both within as well as without the institutions of the Church.²⁷ In his youth Steno had envisaged both marriage and a family, but nevertheless remained a bachelor. That he appears to have been heavily influenced by women in religious matters is, of course, both significant and paradoxical.

Undoubtedly the vibrant French Counter-Reformation Catholicism, which was actively engaged in the attempted mass-conversions of Huguenots, while simultaneously coping with the internal conflict generated by the Jansenists, proved religiously and intellectually stimulating to Steno. In Paris he was able actively to engage in a religious debate which would have been difficult if not impossible in the

24 Cioni, *Niels Stensen Scientist-Bishop*, p. 32; Kermit, *Stensen*, p. 38; Snorrason, *Anatomen J.-B. Winslow*, p. 22; and L. Tinsley and J.M. Gres-Gayer, 'Bossuet', in *New Catholic Encyclopedia*, 15 vols (New York, 1967), pp. 548–51. See also *The Oxford Dictionary of the Christian Church*, 3rd ed. (Oxford, 1997).

25 See Scherz (ed.), *Nicolai Stenonis epistolae*, E. 146. Cited in Kermit, *Stensen*, p. 38.

26 Kermit, *Stensen*, pp. 38–9.

27 E. Rapley, *The Devotes: Women and Church in Seventeenth-Century France* (Montreal and Kingston, 1990), *passim*.

more intolerant, parochial climate of orthodox Lutheranism in his home country.²⁸ Admittedly, the intellectual climate of the Netherlands, where Steno had studied prior to his stay in France, would have been even more tolerant and diverse, but it would have lacked the theological fervour of a revived Counter-Reformation Catholicism promoted vigorously by people such as Bossuet, who saw the conversion of Protestants as their primary obligation.

In scholarly terms Steno's year in Paris proved significant too. Thus he conducted a number of public and private anatomical dissections. The *Journal des scavans* reported on 23 March 1665, that the Danish anatomist was carrying out dissections for the benefit of those who wanted to improve their knowledge. It also mentioned that Steno was conducting dissections in the medical faculty of the university, where his new discoveries were widely admired.²⁹

It is important to bear in mind that Steno appears to have been one of the most accomplished anatomists of his day. His skill and technique, when dissecting, was considered unique and held in high esteem. Thus the physician André Graindorge who was present at a number of Steno's dissections in Paris informed his friend Pierre-Daniel Huet, the prominent physician in Caen and later tutor to the Dauphin, about Steno's undertakings with growing excitement and admiration.

In his letter of 9 May 1665 Graindorge described Steno as a 'clever' anatomist. Only 10 days later Graindorge expanded on this statement:

This Steno is causing a sensation. This afternoon we saw the eye of a horse. To tell you the truth, compared with him we are only apprentices. I asked him to show me a heart tomorrow morning, which he promised with exceptional kindness. He is always dissecting. He has an unbelievable patience and through practice he has gained a unique expertise. No butterfly or fly escapes his zeal.³⁰

Eleven days later Graindorge added further observations about Steno: 'When I labelled us apprentices when compared with Mr. Steno, I was right. I have never witnessed such dexterity. With the eye, scalpels, and a small instrument in his hand which is always turned towards the audience he demonstrates what is noteworthy in the construction of the eye.'³¹ Steno also gave his famous lecture on the brain to a group of scholars assembled at Thévenot's house, which was published four years later.³² Apart from finally rejecting Descartes's view on the human brain and soul,

28 For the religious situation in France, see R. Briggs, *Early Modern France 1560–1715*, 2nd ed. (Oxford, 1998), pp. 160–96. For Steno's involvement in religious discussions in Paris, see Kadel, *Steno: Life-Science-Philosophy*, p. 37. For Denmark, see H. Koch (ed.), *Den Danske Kirkes Historie*, vol. 4 (Copenhagen, 1959), pp. 381–441.

29 Kermit, *Stensen*, p. 39.

30 G. Scherz, 'Da Stensen var i Paris', *Fund og Forskning* 16 (1969): 43–52, esp. p. 48.

31 Scherz, 'Da Stensen var i Paris', pp. 48–9; and J. Schiller and J. Théodoridès, 'Sténon et les milieux scientifiques parisiens', *Analecta Med-Hist* (1968): 155–70, esp. p. 163 where Steno is reported to have 'effacé certainement tous les anciens et tous les modernes en ce genre (viz. dissection)'.

32 *Discours de Monsieur Stenon sur l'anatomie du cerveau* (Paris, 1669).

Steno emphasised how little was known about the brain and the need for a new and meticulous approach to this important part of anatomy. He concluded:

What I have hitherto said concerning the insufficiency of all the Systems of the Brain, concerning the want of a true Method in dissecting it, concerning the infinite number of Inquiries that ought to be made about it in Man and in Brutes, in all their different states, concerning the barrenness of all the Writers on this Subject, and concerning the precautions that must be used in handling these tender Parts, ought certainly to undeceive those who satisfy themselves with what they find in the Books of the Ancients. We must always remain in ignorance if we settle for what the Ancients have taught us, and if Men capable of making such Inquiries do not contribute their Labour, Industry and Study, in order to arrive at the knowledge of Truth, which is the principal aim for all who search for it sincerely.³³

But significantly the outcome of Steno's stay in Paris appears to have been one of growing uncertainty, both about the possible achievements of anatomy in improving the overall understanding of God's creation and about his own faith. He left France for Tuscany in March 1666, only to convert to Catholicism a year and a half later. Undoubtedly the colourful and dramatic Catholic devotion he encountered in Italy, with spectacular processions, such as the one he witnessed on the day of Corpus Christi in Livorno, affected Steno. So did his encounter with a number of devout, Catholic ladies, such as the nun Maria Flavia del Nero, whom he first met in the apothecary's shop in the Annalena Convent in Florence, and his friendship with the wife of the Luccese ambassador to Florence, Lavinia Arnolfini, who impressed him by stating that she would gladly give her life for his salvation. As in France, Steno's association with a few devout Catholic women proved significant for his subsequent conversion, even if the role of the Jesuit priest Emilio Savignani, who was close to both Maria Flavia and Lavinia Arnolfini, would appear to have been important too. Considering the importance of devout Catholic women for his conversion story it is noteworthy that Steno appears never to have seriously contemplated marriage. Despite spending considerable time on studying both the Bible and Church fathers, it was not his extensive theological studies and conversations which finally brought about Steno's conversion, but (according to himself) a spiritual revelation. As Steno put it himself years later, when he had joined the Catholic clergy:

I failed to find a way out of my unhappy predicament until one evening, on All Saints Day, so many proofs and so many differing circumstances presented themselves, that, at last, it was clear to me that God had taken me by the hand and led me to His church and that I must admit: 'Lord. You have freed me from my chains'.³⁴

Retrospective explanations are, of course, not necessarily reliable, especially in the case of a convert such as Steno, who went on to become not only a Catholic priest in 1675, but was ordained bishop two years later. More revealing, in my opinion, are

33 E. Gotfredsen (ed.), *A Dissertation on the Anatomy of the Brain by Nicolaus Steno. Read in the Assembly held in M. Thevenot's House in the Year 1665* (Copenhagen, 1950), pp. 42–3.

34 See Kermit, *Stensen*, pp. 50–1.

the letters Steno exchanged with the Protestant Enlightenment philosopher Gottfried Wilhelm Leibniz (1646–1716). Leibniz, who admired Steno as a natural philosopher and anatomist, but considered him a mediocre theologian, found it difficult to understand how Steno could abandon his study of Man and the created world for a pastoral position within the Catholic Church. Steno responded by describing how the study of anatomy had served to undermine his confidence in the system of Descartes. How, he asked Leibniz, could a mechanist interpretation of the world, with glaring errors even a child could spot, provide him with any meaningful foundation when dealing with questions on God and the soul?³⁵ Such doubts about the value of investigations into Man and Nature and the reliability of what could be observed and achieved, is also reflected in Steno's manuscript for a sermon from the mid 1670s. Here he argued for the impossibility of human beings understanding the full purpose of 'earthly things'. Steno argued that:

It is one thing to consider such things within the bounds of our own intelligence, and another thing to examine them in relation to the total sequence of created things. It would be equally stupid to call useless something whose purpose we are ignorant of, and to deny the existence of things we have not seen.³⁶

The doubts about what could be achieved through anatomy in understanding God and the created world, the seeds of which had been sown during his stay in Paris while Steno was focusing his investigations on the brain, further increased after his arrival in Florence. It is somewhat paradoxical that Steno's unique technical skills as an anatomist seem to have contributed to his eventual rejection of anatomy as a way to understand God's creation, simply by having made it possible for him to work in highly complex anatomical areas, such as the brain, where he encountered more uncertainty than certainty the more he dissected.

To that should be added a corresponding doubt about his Lutheran faith, which had clearly been challenged while in Paris, and which was further undermined in Florence. What Steno was evidently hoping for was assurance. As he pointed out to Leibniz, either religion was a man-made construction, as argued by Descartes, whereby different denominations showed the Creator the adoration they owed him, or else religion was prescribed by God himself. If the latter was the case only one religion could be true, and would have existed unbroken from the world's beginning and last to its end.³⁷ Significantly Steno emphasised to Leibniz 'how God through anatomical discoveries made him give up his natural philosophical hypotheses and gradually opened him up to the love of Christian humility'.³⁸ That Steno found his assurance within the resurgent Counter-Reformation Catholicism he encountered in France and Tuscany should not surprise us, if we bear in mind the emphasis he appears to have put since his student days on the need for a pious and godly existence.

35 See Scherz (ed.), *Nicolai Stenonis epistolae*, E. 12 and E. 13.

36 See G. Scherz (ed.), *Steno Geological Papers*, Acta Historica Scientiarum Naturalium et Medicinalium 20 (Copenhagen, 1969), pp. 249–67.

37 See Kermit, *Steno*, p. 51.

38 Scherz (ed.), *Nicolai Stenonis epistolae*, E. 143.

However, before Steno finally abandoned anatomy for the Catholic Church, he briefly returned to Copenhagen in 1672, after having accepted the post of Royal Anatomist. While in Copenhagen, he conducted a number of private dissections, and reopened the anatomical theatre of the university when he conducted public dissections for 10 days during February 1673. In his opening speech on this occasion Steno took the opportunity to state what he considered to be the true role of anatomical dissections. Steno claimed that he only served as the 'reluctant' tool of God, who had guided his discovery of many things which had been denied better and worthier anatomists than him. He pointed out that anatomy had one goal only, namely to generate knowledge and love of the Creator among those present, by demonstrating to them the 'art of the body' whereby they would come to understand 'the dignity of the soul' and 'the miracles' of body and soul. He emphasised that:

The admirable rule of the divine providence for the creatures endowed with the ability to think is such that, at first, it rather overwhelms this ability with a thousand delights through the different ways of perception, then it arouses the wish to seek out the true cause of these pleasures and finally, through discovering what was sought for, to find a way to recognize the giver in his gifts and to transfer all impulse to love from the gifts to the giver. Those who make it merely the servant for the preservation and healing of disease are in error, therefore, and treat anatomy beneath its dignity.³⁹

There are obvious similarities between Steno's views as a Protestant student of anatomy in 1659 and his views as a Catholic convert and Royal Anatomist, fourteen years later. Anatomical dissections and investigations continued to offer not only a better understanding of the created world, but also provided greater knowledge of God himself. But where Steno as a student had emphasised the religious obligation to undertake anatomical dissections: not to do so would be a sin, and a waste of an opportunity to benefit one's neighbour. But the Catholic Steno of 1673 has excluded the beneficial aspect of such undertakings *for the Godly community*. By now he has come to see such justifications as detracting from the 'dignity' of anatomy. By 1673 anatomy had come to serve a purely religious purpose for Steno, bringing those present and observing it to understand the grandeur and majesty of God. Anatomy had become something akin to a Catholic, baroque play, where the anatomist resembled an actor being manipulated by the playwright – God. Steno's Catholicism had, in other words, changed the way he perceived the role and meaning of anatomy. Steno eventually took the consequence of his changed outlook by transferring his 'love from the gifts to the giver', when he was ordained priest in 1675.

In contrast to Nicolaus Steno, his grand-nephew Jacob Winsløw did become a physician. Winsløw quickly established a large practice in Paris, but always considered anatomy and physiology of the greatest importance for practical and clinical medicine. From the outset Winsløw had been directly involved in anatomy and surgery. During his time at the University of Copenhagen Winsløw had boarded with the prominent surgeon Johannes de Buchwald, who was to be instrumental in

³⁹ Niels Stensen, *Preface to Anatomical Demonstrations in the Copenhagen Theatre in the year 1673*, reprinted in translation in Kardel, *Steno: Life-Science-Philosophy*, pp. 123–4, see also p. 113.

improving surgery in Denmark, in order to learn practical surgery.⁴⁰ Winsløw arrived in the Netherlands together with Buchwald, and there he was impressed with the clinical and surgical teaching he encountered. While there, Winsløw improved his knowledge of surgical and orthopaedic bandages, not to mention his knowledge of midwifery. The latter was obtained by working closely with a Dutch midwife.⁴¹

Considering his interests in anatomy and surgery Paris was an obvious destination for the young Winsløw, where these aspects of medicine were particularly well taught towards the end of the seventeenth century by people such as Joseph-Guichard Duverney (1648–1730), professor in anatomy and surgery at the Jardin du Roi, and the Royal Surgeon, Roland Arnaud (1651–1723) who became Winsløw's main teachers.⁴²

Like Steno 35 years earlier, Winsløw was impressed with the Catholic devotion he encountered in Paris, having already been somewhat perturbed by the fact that the Lutheran Eucharistic ritual that he had experienced first in the Lutheran Church in Amsterdam and then in the Danish ambassador's residence in Paris, differed from that with which he was familiar back home.⁴³ Like other young Danish students, the 20-year old Winsløw became fascinated by the religious controversies between Catholics and Protestants in particular, which played a prominent part in Parisian life towards the end of the seventeenth century. Together with the newly arrived grandson of Ole Worm, Ole Worm, Jr, Winsløw decided to attend one of the so-called 'conferences' conducted by Abbot Louis Géraud de Cordemoy (1651–1722), who had written extensively against the errors of the Protestants. Worm suggested to Winsløw that they prepare themselves by discussing the issues before they attended Cordemoy's conference. Worm would put across the Protestant point of view, while Winsløw would present the Catholic. In order to prepare himself Winsløw acquired a number of works written by prominent Counter-Reformation theologians, such as Jacques-Bénigne Bossuet. The effect of his readings and discussions with Ole Worm, Jr, led Winsløw to seriously examine his own faith and interrupt his medical studies.⁴⁴ Only two years after having left Denmark he was clearly on his way to abandoning the faith in which he had been raised and which his father had asked him to guard with the utmost care while he was abroad among non-Lutherans.⁴⁵ Via his French acquaintances Winsløw obtained letters of introduction to Bossuet in order to discuss the religious scruples his reading of Bossuet's books had raised. He was warmly received by Bossuet in Meaux in September, and after two days of intensive talks Winsløw declared that he was now entirely convinced of the truth of

40 For Johannes de Buchwald, see *DBL*.

41 Snorrason, *Anatomen J.-B. Winsløw*, pp. 14–15. For France generally, see Phillips, *Church and Culture in Seventeenth-Century France*, pp. 135–225.

42 Snorrason, *Anatomen J.-B. Winsløw*, p. 17.

43 V. Maar, *L'Autobiographie de J.-B. Winslow* (Paris and Copenhagen, 1912), p. 38 and pp. 45–6; Winsløw first witnessed a Catholic Mass while in Brussels on his way to Paris and was clearly impressed, p. 39.

44 Maar, *L'Autobiographie de J.-B. Winslow*, pp. 46–62.

45 V. Heise, 'Jacob Benignus Winsløvs Thesis om Dodstegnene', *Soro Akademis Skoleprogram* (1868): I–XX, 1–32.

the Catholic doctrine.⁴⁶ Winsløw had been deeply impressed by Bossuet, whom he from then on considered not only his confessor but also *in loco parentis*.⁴⁷

On his return to Paris Winsløw kept his intention to convert to Catholicism secret from his Danish friends. He renounced his Lutheran faith in the presence of a number of prominent French clergy, among them Bossuet, on 11 October 1699, and on his conversion was given the name Benignus by Bossuet.⁴⁸ Three weeks later Winsløw wrote to his father, not to tell him about his conversion, but to try to engage him in a theological discussion by pointing out that he had come to have some reservations about the Protestant abolition of the sacrament of confirmation, and referring him to the works of Bossuet. By not breaking the news immediately to his father, Winsløw followed the advice of Bossuet, who had recommended that he break the news gradually, thereby making it easier to accept.⁴⁹

Early in 1700 Winsløw received a response from his father. It was an affectionate letter which did not engage with the theological issues Winsløw had raised. Instead, his father warned him 'to escape the sweet temptation and not to follow the example of Steno, who had been a famous Luke,⁵⁰ but had turned into a Demas,⁵¹ blameable not because he sought the pleasures of this world, but for his erroneous opinions'.⁵² A second letter from Winsløw's father arrived a few days later. The old Lutheran minister was obviously deeply concerned for his son's spiritual welfare. He encouraged Jacob to return home immediately. He also responded to Jacob's stated intent to publish a special edition of Steno's shorter treatises on anatomy, augmented by some manuscript material of Steno's which Jacob had discovered. His father exhorted him not to get involved in this edition unless it was exclusively about anatomy, and did not touch upon Steno's theological writings. Even so, he preferred his son not to be involved in the project at all. He finished his letter by advising his son not to abandon his study of medicine under any circumstances. Clearly, Winsløw senior had read between the lines of his son's letter, and feared the worst, namely a conversion to Catholicism on a par with that of Steno. Undoubtedly his firm instruction not to give up medicine should be seen in this context. Evidently, he considered Jacob's medical studies to be some sort of bulwark against Catholicism. The fact that Steno had eventually exchanged his anatomical investigations and dissections for the priesthood of the Church may have had a lot to do with this⁵³.

Eventually, it was a letter from his teacher and friend, the surgeon Johannes de Buchwald, informing him about his father's worries and disquiet about him, which stirred Winsløw into coming clean about his conversion no fewer than five months after it had taken place.⁵⁴ Later that year Winsløw received two letters from his father expressing disquiet and sadness about his conversion and begging him to

46 Maar, *L'Autobiographie de J.-B. Winslow*, pp. 63–6, esp. p. 66.

47 Maar, *L'Autobiographie de J.-B. Winslow*, pp. 66–8.

48 Maar, *L'Autobiographie de J.-B. Winslow*, pp. 72–3.

49 Maar, *L'Autobiographie de J.-B. Winslow*, p. 79.

50 Lucas is supposed to have been a physician, see Col. 4.14

51 One of Paul's co-workers who deserted him.

52 Maar, *L'Autobiographie de J.-B. Winslow*, p. 83.

53 Maar, *L'Autobiographie de J.-B. Winslow*, pp. 84–5.

54 Maar, *L'Autobiographie de J.-B. Winslow*, pp. 86–7.

come home. Referring to Genesis 46, he called Jacob his beloved Joseph whom he desired to see once more before he died. For the sake of God, as he put it, he begged Jacob to do three things: to rely solely for his salvation on Jesus Christ; to continue his medical studies; and to hold on to the religion into which he had been born and raised.⁵⁵ Of those demands Jacob Winsløw only honoured the second, which did nothing to restore his childhood faith.

No further communication took place between Jacob and his father until one of his brothers, Nicolaus Bruno, arrived in Paris in February 1702 bringing a couple of letters from him. In these letters Winsløw senior for the first time tackled the religious queries Jacob had raised back in the autumn of 1699, immediately after his conversion. If the letters from his father were extensive, Jacob's answer proved painfully long, taking up no fewer than 27 printed pages in his autobiography.⁵⁶ This letter of 26 March 1702 turned out to be Winsløw's last communication with his father, who died three years later. If Winsløw's conversion had been relatively straightforward as compared with that of Steno, his inability to come clean with his Lutheran compatriots in Paris in general and his father in particular demonstrates a peculiar discomfort with his conversion. Winsløw evidently felt deeply uncomfortable with the prospect of disapproval from friends and family, despite being convinced that he had found the only true way to salvation. This was certainly an aspect of his conversion Steno had found unproblematic. Winsløw struggled to come to terms with the loss of contact with his father, and when he finally learnt of his death he was at a loss as to what to do. He had, however, consulted Bossuet who, after having considered the great merits of his father – having been a man of learning, piety, steadfastness and charity – allowed Winsløw to pray for him, despite his having been a Lutheran.⁵⁷

Jacob Winsløw continued his medical studies. Having lost his royal stipend he survived on financial support from Catholic benefactors such as Bossuet. He remained in Paris for the rest of his life, receiving his MD in 1705. He quickly built up a successful practice, became a physician at Hôtel Dieu and later at the Hôpital général. He became a member of the Académie royale des sciences in 1708, and in 1721 he became professor of surgery in the medical faculty, finally being promoted to professor of anatomy and surgery at the Jardin royal in 1743. Like his grand-uncle Steno, Winsløw never married, but he stayed with anatomy and medicine. Through his hard work and meticulous anatomical observations, which lead to new discoveries about the function of a number of limbs and muscles, he achieved European fame and he became a magnet for medical students across Europe. His teaching was widely admired and the Swiss anatomist and physiologist Albrecht von Haller praised his anatomy teaching in particular and recommended all students of anatomy to read Winsløw's works, despite finding him 'a small, insignificant and superstitious man'.⁵⁸

55 Maar, *L'Autobiographie de J.-B. Winslow*, p. 98.

56 Maar, *L'Autobiographie de J.-B. Winslow*, pp. 110–38.

57 Maar, *L'Autobiographie de J.-B. Winslow*, pp. 139–40.

58 Snorrason, *Anatomen J.-B. Winsløw*, pp. 18–19.

Winslōw adhered, as we have seen, to one of his father's three wishes by sticking with medicine and anatomy. This, however, did not prevent his conversion. In fact there seems to have been no evident link between Winslōw's conversion to Catholicism and his anatomical dissections and observations, as opposed to Steno, and, as far as we know, Winslōw never contemplated following his icon Steno down the route to the priesthood. However, in his approach to dissections he prided himself on continuing Steno's method of anatomy, as can be seen from his preface to his *Anatomical Exposition* published in 1732. Here he stated:

I conclude by acknowledging with sincere Gratitude that the late M. Steno's *Discourse on the Anatomy of the Brain*, was the sole original Source, and general Rule of my Conduct in all that I have done in Anatomy; and I have inserted it in the Description of the Head, believing that I should oblige my Readers by reprinting a piece which has become very scarce, and which contains a great many excellent Advices how to shun errors and discover Truth, not only in the structures and uses of the Parts, but also in relation to the way of dissecting and of making Anatomical figures.⁵⁹

Thus, both Steno the anatomist and Steno the convert loomed large in Winslōw's life. For both Steno and Winslōw their stay in Paris proved seminal. Both had been brought up in a narrow, orthodox Lutheranism which was more concerned with halting the advance of Catholicism and Calvinism than with pastoral care, and both had been impressed by the Counter-Reformation devotion they encountered in Paris, not to mention their admiration for prominent Catholic churchmen well versed in the religious controversies of the age. Steno, however, appears to have moved towards his conversion via his growing doubts about what could be learnt with certainty about the created world from anatomical dissections, while Winslōw's conversion would appear to have been detached from such concerns. I wonder whether or not such differences can be said to be descriptive of an Enlightenment shift, or whether they simply represent something specific to Steno and Winslōw. However, rather than trying to look for a link between Winslōw's natural philosophy or anatomy and his conversion, a better understanding of this event may well be found within the trend of the period to 'irrationalise' religion, as opposed to attempts to rationalise it, thereby firmly separating the 'world of science' from that of religion, as argued by Blaise Pascal (1629–62). This is after all where Jonathan Israel in his recent book on the Radical Enlightenment has firmly placed Winslōw's supporter and converter, Bishop Bossuet, at the time when Winslōw came under his influence.⁶⁰

Both Steno and Winslōw remained staunch Catholics energetically trying to convert their fellow Protestant countrymen and family whenever possible. When Steno met his sister in Hamburg in 1684 he tried in vain to convert her, having already managed to convert one of her daughters and a couple of their nephews and

⁵⁹ Cited from the English edition of J.-B. Winslōw, *An Anatomical Exposition on the Structure of the Human Body* (London, 1733) fol. X.

⁶⁰ J. I. Israel, *Radical Enlightenment: Philosophy and the Making of Modernity 1650–1750* (Oxford, 2001), pp. 273–6.

nieces.⁶¹ Winsløw for his part did his best to convert his brother when he visited him in Paris.⁶²

Epilogue

But the experience of Counter-Reformation Catholicism in Paris did not always result in conversion. When the Danish Enlightenment historian and philosopher, Ludvig Holberg (1684–1754) visited Paris in 1714–15, Winsløw guided him round the city, trying to impress him with the devotion and ritual of the Catholic Church. Likewise, it was probably on Winsløw's suggestion that Holberg attended a sermon in Saint-Sulpice especially aimed at heretics. Rather than being converted by such encounters with Catholics and Catholicism in Paris, unlike Steno and Winsløw, Holberg found that they instead served to make him aware of his own Protestant faith. The result was that Ludvig Holberg turned into a fervent anti-Catholic.⁶³

Thus, when Holberg published his *General Church-History* in 1738 he took the opportunity to attack the writings of Bossuet in particular, pointing out how Bossuet, through lies and manipulation, had managed to convert young and inexperienced Protestants visiting Paris. Holberg stated that by common consent, that is, by Protestants, Bossuet was considered 'one of the most subtle impostors that the Roman Church had been able to produce for some time'.⁶⁴ Not surprisingly Bossuet had become something of a bogeyman for Danish Lutherans. Holberg concluded his church history by reminding his readers of the continuous dangers posed by the Catholic Church:

Thus you see, that everything conspires to make Papal domination invincible, and that no Reformation of the Church in the Roman Catholic countries can be expected at this point in time; not least because the most blatant errors, which are most striking, since Luther's Reformation, have been hidden or extenuated; accordingly those who advise the Protestants to unite their forces against such a dangerous and mutual enemy through continuous alliances and leagues, cannot be blamed.⁶⁵

Religion clearly remained a hot topic well into the Enlightenment era.

61 Kermit, *Stensen*, pp. 67 and 73.

62 Maar, *L'Autobiographie de J.-B. Winslow*, pp. 140–1.

63 G. Albeck and F. J. Billeskov Jansen, *Dansk Literaturhistorie: Fra Runerne til Johannes Ewald*, vol. 1 (Copenhagen, 1967), pp. 261–3. See also Snorrason, *Anatomen J.-B. Winsløw*, pp. 57–8.

64 L. Holberg, *Kirke-Historie*, vol. 2 (Copenhagen, 1868), p. 1012.

65 *Ibid.*, p. 1016.

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Medicine, Witchcraft and the Politics of Healing in Late-Seventeenth-Century England

Peter Elmer

In his recent magisterial survey of the Radical Enlightenment in late-seventeenth- and eighteenth-century Europe, Jonathan Israel has focused on the seminal role played by the Dutch philosopher, Benedict Spinoza, in promoting the cause of radical religious and philosophical speculation. Spinoza himself, as Israel is at pains to point out, was not an isolated figure but part of a much wider circle of radical freethinkers who exploited the relative tolerance of the Dutch republic in order to pursue their studies and promote a range of highly heterodox opinions. Typically, these included scathing attacks on the function of religion and the priesthood in early modern society combined with a growing scepticism concerning the role played by a providential God in the day-to-day workings of the universe. As part of this assault upon traditional religion, Spinoza and his allies decried the idea of an active and personal Devil, and poured scorn on those who continued to argue for the reality of demonic intervention in human affairs.¹

An interesting aspect of Israel's work is the extent to which it provides evidence for the profound debt of Spinoza and his 'atheistic' circle to medicine as one possible source for the philosophical and religious radicalism that characterised the early Dutch Enlightenment. From a young age, Spinoza himself had shown an interest in medicine and may have seen it as a potential career option. By the mid to late 1650s, his close circle of friends included a number of physicians and medical students, many of whom went on to play a key role in supporting Spinoza's later studies and disseminating his ideas both in print and manuscript. Among these, the physician, Abraham van Berckel (1639–89), published a Dutch translation of Thomas Hobbes' *Leviathan* at Amsterdam in 1667.² Another physician, Johannes Bouwmeester (1630–80), who studied philosophy and medicine at Leiden in the 1650s, was involved in a project to publish Spinoza's works after his death, along with fellow physician, alchemist and Leiden graduate, Georg Hermann Schuller (1651–79). In the event, Schuller, who practised medicine in Amsterdam, probably played a peripheral role in the publication of the Latin edition of Spinoza's *Opera posthuma* (1677). However, another physician and associate of Spinoza, Petrus van Gent (1640–95), did act as

1 Jonathan Israel, *Radical Enlightenment: Philosophy and the Making of Modernity 1650–1750* (Oxford, 2001).

2 Margaret Gullan-Whur, *Within Reason: A Life of Spinoza* (London, 1998), pp. 50–1; Israel, *Radical Enlightenment*, p. 184; Arie-Jan Gelderblom, 'The Publisher of Hobbes' Dutch *Leviathan*', in Susan Roach (ed.), *Across the Narrow Seas* (London, 1991), pp. 162–6.

his radical friend's literary executor and editor. His subsequent correspondence with other members of the philosophical circle surrounding Spinoza confirm that the latter's ideas were particularly conducive to those who had undergone a medical education. He reports, for example, the sustained interest of the Leiden-trained medic, Heydenryck Overcamp (1651–94), in debating and disseminating Spinozan materialism.³

Two other medical friends and associates of Spinoza, who played a central role in helping to shape and promote his assault on religious and philosophical convention, were Franciscus van den Emden (1602–74) and Lodewijk Meyer (1629–81). Van den Emden, among other things, taught Spinoza Latin and acted as a pivotal figure in attracting like-minded thinkers to their radical circle. Like Schuller, he was also attracted to alchemy and his penchant for philosophical radicalism may have had its roots in Helmontian mysticism.⁴ Meyer was another Leiden-educated physician, who graduated MD in 1660, and thereafter practised medicine at Amsterdam. He was the anonymous author of the radical treatise, *Philosophia S. Scripturae interpres* (1666), which in many respects pre-figured the radical, philosophical materialism of his friend and close associate, Spinoza.⁵ Among other things, Meyer certainly shared Spinoza's scepticism with regard to the existence of demons, witches and evil spirits, though the Dutch writer who did most before Balthasar Bekker to deride such beliefs was yet another medic, the Haarlem physician Antonius van Dale (1638–1708). Hailed by Israel as a forgotten hero of the Radical Enlightenment, Van Dale was an avid opponent of all forms of superstition, including sorcery, divination and witchcraft, which he attributed to clerical fraud. As an Anabaptist and Collegiant, he castigated both the Protestant and Catholic Churches for continuing to perpetuate such myths, and he cited a range of medical experts to defend his view that all recent cases of demonic possession were fraudulent.⁶

While it is not possible here to unravel precisely the threads which connected medical study in the United Provinces with the emergence of the Dutch Radical Enlightenment, it seems beyond doubt that there was a connection between medical study and a proclivity toward radical religious, political and philosophical

3 Israel, *Radical Enlightenment*, pp. 198, 288, 310. Israel reports that Overcamp's medical doctorate on gangrene was 'quashed by the university senate at Leiden in 1677, apparently on the grounds of objections to his philosophical terminology and 'Spinozistic tendencies'. He went on to publish 'a robust critique of Descartes' concept of motion in which he firmly contends that motion must be conceived as inherent in matter', Israel, *Radical Enlightenment*, p. 310.

4 Marc Bedjaï, 'Le docteur Franciscus van den Enden, son cercle et l'alchimie dans les Provinces Unies du XVII^e siècle', *Nouvelles de la République des lettres* 2 (1991): 19–50.

5 Israel, *Radical Enlightenment*, pp. 197–8.

6 Israel, *Radical Enlightenment*, pp. 361–4. Van Dale's ideas are to be found in his *De oraculis ethnicorum* (Amsterdam, 1683), a Dutch edition of which was published in 1686. Many of these are prefigured by the work of yet another medical friend and acquaintance of Spinoza, Adriaen Koerbagh (1632–69), whose radical dictionary, *Een Bloemhof* [The Garden] (Amsterdam, 1668), dismissed belief in Satan, demons, sorcery, witchcraft and possession as 'fabrications utterly devoid of truth or reality [and] devised solely to scare and manipulate the ignorant', Israel, *Radical Enlightenment*, p. 192.

speculation in this part of Europe after 1650. This stands in marked contrast to the situation in England, where in the same period, and with a few notable exceptions (discussed below), there is very little evidence to suggest a link between medicine and philosophical radicalism, despite the fact that contemporaries continued to cite the old commonplace linking physicians with atheism. English medical practitioners, unlike their Dutch counterparts, do not appear to have engaged in the kind of radical questioning which characterised the circle surrounding Spinoza. Nor did they form, as far as one can tell, similar groups or coterie devoted to exploring materialistic explanations of natural phenomena, including topics of obvious interest to trained physicians such as the relationship between mind (soul) and body. In this essay, I wish to explore why this might have been the case, focusing in particular on an area of mutual interest to physicians and radical thinkers alike, namely the debate surrounding the existence of spirits, demons and witches in the sublunary world.

The absence of a Radical Enlightenment in England in the years between 1660 and 1700 is curious and defies easy explanation. The preconditions necessary for the kind of freethinking that characterised Israel's Radical Enlightenment in the United Provinces were largely replicated in England. The period from 1640 to 1660 had marked a watershed in the intellectual life of the nation. The collapse of clerical censorship and the apparatus of an effective state church had encouraged the emergence of an active radical religious and political fringe, which in turn used the nascent freedom of the press to promote its subversive agenda. By the 1650s, materialism and pantheism – the staple ingredients of Israel's Radical Enlightenment – flourished among such groups as the Ranters and Diggers. At the same time, political philosophers like Thomas Hobbes and James Harrington vied with each other to provide a radical alternative to traditional, theocratic conceptions of the state that characterised mainstream political thinking before the civil wars. Eventually, of course, the sects would be suppressed, censorship re-imposed, and the works of men such as Hobbes demonised and proscribed. But the fact remains that the foundations for a future Radical Enlightenment, on similar lines to those mapped by Israel for Holland, existed in embryonic form in England in 1660.

It is beyond the scope of this present essay to engage fully with the thorny issue relating to the fate of England's missing 'Radical Enlightenment' after 1660. Instead, I would like to focus on a particular aspect of this enigma, namely the curious failure of the English physician to make a substantial contribution to the propagation and spread of radical philosophical ideas in the period from 1660 to 1700. The failure is even more inexplicable when one takes into account a host of additional factors relating to the fate of the medical profession in England after 1660.

In the first place, there is the clear evidence of the close association in England between medicine and the world of religious and political radicalism both before and after 1660, as suggested, for example, by Christopher Hill. Hill was one of the first to point out the frequency with which many of the leaders of this radical fringe were attracted to medical practice and study both before and after 1660.⁷ While the activities of the medical radicals are well attested prior to 1660, much

7 Christopher Hill, 'The Medical Profession and Its Radical Critics', in Hill (ed.), *Change and Continuity in Seventeenth-Century England* (London, 1974), pp. 157–78.

less is known about their contribution to medicine after the Restoration. What is clear, however, is that many of the relationships forged in the relatively tolerant and permissive era of the interregnum continued into the 1660s and beyond, particularly in the world of medical practice where former radicals continued to associate and provide mutual support for their respective practices. An interesting, but otherwise unnoticed, example concerns the case of the former Ranter, Abiezer Coppe (d. 1672), who changed his name at the Restoration to Higham and practised medicine in and around Barnes, south-west London.⁸ In February 1667, and despite his radical past, Coppe or Higham sought to legitimate his medical practice by acquiring a licence from the archbishop of Canterbury to practise medicine and surgery. In doing so, he secured medical testimonials from various friends and colleagues, many of whom shared the former Ranter's radical background. Among those who signed certificates on his behalf were Humphrey Brooke (d. 1693), MD, a candidate of the London College of Physicians and son-in-law of the former Leveller-turned-medic, William Walwyn, and Lionel Lockier (d. 1672), himself a former Ranter who made a fortune as an empiric selling his eponymous pill.⁹ In other cases, religious sects such as the Quakers often closed ranks and created their own denominational medical services to serve the exclusive needs of their co-religionists.¹⁰ An intriguing aspect of Restoration medicine, and one that merits further exploration, is the extent to which physicians, surgeons and other medics developed medical practices on confessional lines, and so elaborated and reinforced specific approaches to health, disease and medicine. The would-be medical reformer, Marchamont Nedham (1620–78), was clearly of this view when in 1674 he lamented the fact that medicine in England had become highly politicised and partisan, 'every Party taking its own Proselyte to be the Ablest, and the most Conscientious Doctor'.¹¹

Putting to one side for the moment the question of the growing politicisation of medicine after 1660, it seems fair to suggest that the appeal of medicine for former radicals like Coppe attests to the continuing link between medicine on the one

8 Anthony Wood, *Athenae Oxonienses*, 2 vols (London, 1721), vol. 2, col. 367.

9 Lambeth Palace Library, VH 28/5; VH 1/1, p. 5. For a good recent analysis of William Walwyn's medical radicalism as a Helmontian, and his ability to exploit the commercial possibilities of the new medicine in Restoration England, see Andrew Wear, *Knowledge and Practice in English Medicine, 1550–1680* (Cambridge, 2000), pp. 387–94, 412–16. Lockier, like Walwyn, favoured iatrochemical remedies, but also attracted the condemnation of avaricious and jealous competitors, including fellow chemist, George Starkey. He died in 1672 and was buried in St Saviour's, Southwark, where a memorial sings the praises of his famous pill; John Aubrey, *Natural History of Surrey*, 5 vols (London, 1729), vol. 5, pp. 205–6.

10 For Quaker medicine, see Peter Elmer, 'Medicine, Science and the Quakers: the "Puritanism-Science" Debate Reconsidered', *Journal of the Friends Historical Society* 54 (1981): 265–86.

11 Franciscus de la Boë Sylvius, *A New Idea of the Practice of Physic ... Whereunto is Prefixed a Preface ... by Dr Mar[chamont] Nedham* (London, 1675), sig. b6r [preface dated 13 October 1674]. This current essay forms part of a much larger, ongoing study into the politics of healing in early modern Britain; see my *Valentine Greatrakes, the Body Politic and the Politics of Healing in Early Modern Britain* (forthcoming, 2007).

hand, and what contemporaries derided as 'atheism' on the other, in Restoration England. The notion of the physician as atheist has a long pedigree in European thought, and continued to be invoked by clerics and others throughout the second half of the seventeenth century. Physicians were routinely castigated for promoting 'practical atheism', that is a variety of immoral and ungodly pursuits such as excessive drinking, swearing and sexual incontinence, but less so for 'speculative atheism'.¹² With the popularisation of the works of Descartes and the mechanical philosophy, however, and their appropriation by the learned physician, the idea that medical study might foster the latter brand of atheism could only be expected to grow. This, as the Dutch examples cited earlier imply, certainly seems to have been the case elsewhere in Europe. Against all expectations, however, there seems to be little evidence to suggest this combination of interests in Restoration England, a conclusion that would appear to echo John Henry's finding that 'the proverbial atheist, the physician, hardly appears at all in learned attacks on atheism' in late-seventeenth-century England.¹³

Henry has sought to explain the absence of the physician from such literature by reference to the complexity of late-seventeenth-century medical theory and beliefs, which he believes may have placed it beyond the comprehension of most laymen. In contrast, Descartes and Hobbes, whose ideas permeated elite society, would appear to have taken most of the flak in ensuing arguments over the growing threat of atheism in Restoration England. While not disagreeing with certain aspects of this argument, it does not appear to provide a full answer to the question as to why English physicians themselves, who were for the most part fully au fait with the intricacies of Cartesian mechanism, were not more inclined toward radical philosophical speculation. Other factors further underline this curious anomaly. Among them, one in particular stands out for comment, namely, the fact that large numbers of those radicals who opted to pursue a medical career after 1660 did so after travelling to Holland, the spiritual home of the Radical Enlightenment, where they received medical training and were frequently awarded MDs from Dutch universities such as Leiden and Utrecht. The fifth monarchist, John Rogers (1627–70), for example, was awarded his MD from Utrecht in 1662, when he dedicated his thesis on apoplexy to his distinguished Dutch teachers Regius and Diemerbroeck.¹⁴

12 For this distinction, see especially Michael Hunter, 'The Problem of "Atheism" in Early Modern England', *Transactions of the Royal Historical Society* 35 (1985): 135–57; Michael Hunter, 'Science and Heterodoxy: an Early Modern Problem Reconsidered', in David C. Lindberg and Robert S. Westman (eds), *Reappraisals of the Scientific Revolution* (Cambridge, 1990), pp. 437–60.

13 John Henry, 'The Matter of Souls: Medical Theory and Theology in Seventeenth-Century England', in Roger French and Andrew Wear (eds), *The Medical Revolution of the Seventeenth Century* (Cambridge, 1989), p. 91.

14 Following his return to England, Rogers was reported in 1663 to be dwelling in the parish of St Mary Magdalen, London, where he practised medicine and met frequently with like-minded subversives and other opponents of the regime of Charles II; G. Lyon Turner, 'Williamson's Spy Book (I)', *Transactions of the Congregational History Society* 5 (1911–12): 254. For Rogers, see Bernard Capp, *The Fifth Monarchy Men: A Study in Seventeenth-Century Millenarianism* (London, 1972), p. 261 and *passim*; Robert William Innes Smith,

Between 1660 and 1700, Englishmen flocked to the United Provinces to enjoy the most advanced medical training in Europe, their numbers peaking in the critical period of the 1670s and 1680s, when the furore surrounding the publication of Spinoza's mature thought was at its height. Though many, admittedly, did not stay for long (most submitted their theses and collected their doctorates in the space of a few days or weeks), others did stay and study for up to three years, living and imbibing the wider culture of the host nation. Under such circumstances, it seems logical to expect that large numbers of Englishmen, many of them temperamentally and intellectually well disposed to the radical ferment surrounding Spinoza and his medical associates, must have encountered, and in some cases incorporated, elements of this radical tradition. And yet, surviving records provide little evidence to bear out the suggestion that English physicians trained in Holland were perceptibly affected by the currents of free thought and materialistic atheism then circulating in this part of Europe.

In order to unravel this seeming paradox, it would clearly help to know more about the religious and political backgrounds of those Englishmen who opted to attend Dutch medical schools in this period. Statistical analysis certainly reinforces the idea that the Dutch universities constituted an attractive refuge for a range of English dissenters, many of whose career prospects had been badly blighted by the transformations in church and state set in motion by the Restoration of Charles II. Between 1660 and 1700, ministers ejected at the Restoration, their sons and fellow nonconformists flocked to Leiden and Utrecht, where English-speaking communities and churches created important social, cultural and intellectual networks and support groups. Though there is still a great deal more to learn about this particular aspect of the dissenter experience, preliminary research suggests that nonconformist physicians worked closely with each other, both in England and Holland, frequently helping to sponsor new medical graduates as well as providing financial and practical support for aspiring medics.

This is strikingly evident in the dedications found in medical theses printed at Leiden after 1660. The ejected minister, Henry Sampson (c.1629–1700), for example, who was himself a Leiden MD (1668), was the subject of four such dedications by English-born Leiden medical graduates, all of whom came from dissenting backgrounds.¹⁵ Even more significant, perhaps, was the role of another ejected minister, Edward Richardson (1617 – c. 1677), who graduated MD at Leiden in 1664. Richardson was a thorn in the flesh of the English authorities throughout the early years of the Restoration, and was widely held accountable for masterminding many of the plots in his native Yorkshire in the early 1660s. He eventually fled to

English-Speaking Students of Medicine at the University of Leyden (Edinburgh and London, 1932), p. 198. Of his two teachers at Utrecht, Henry Regius (1598–1679) was a leading exponent of Cartesianism, while Isbrand Diemerbroeck (1609–74) was a celebrated anatomist and researcher into the origins of the plague.

¹⁵ Joseph Bridges (1697), Samuel Cromwell (1682), Edmund Devis (1692) and Nehemiah Grew (1671). Sampson was made an honorary fellow of the London College of Physicians in September 1680; A.G. Matthews (ed.), *Calamy Revised: Being a Revision of Edmund Calamy's Account of the Ministers and Others Ejected and Silenced, 1660–2* (1934; Oxford, 1988), p. 425; Innes Smith, *English-Speaking Students*, pp. 30, 58, 66, 102, 204.

Holland, where he settled and combined the practice of medicine with that of the role of pastor to the English churches at Haarlem and Leiden. Given his prominent position in the dissenting refugee community, he naturally became a focus for new English medical students with nonconformist backgrounds, providing a range of support services for those newly arrived in Holland. Like Sampson, Richardson was rewarded with a number of grateful testimonials that found their way into the prefaces of Leiden dissertations.¹⁶

Crucially, this influx of highly educated Englishmen, most of whom were well versed in, and highly receptive to, the latest medical ideas of the age, provided countless opportunities for the English visitors to network and exchange knowledge with their Dutch counterparts. It can be no coincidence, for example, that when John Locke entered into exile in Holland in the 1680s, he rapidly gravitated towards two fellow physicians, Pieter Guenellon (1650–1722) and Egbert Veen (1630–1709?), who provided a ready-made circle of intellectual associates for the English philosopher and physician.¹⁷ There is still a great deal to learn about the nature of the interaction between the Dutch and English medical worlds, and its impact upon medicine in England. We can safely assume, however, that in the 40 years after 1660 a large group of informed, educated and articulate young Englishmen were exposed to the full range of Dutch intellectual life, including the radical ideas of Spinoza and his associates. Medicine and medical education thus provided a highly convenient meeting point of minds, and it does not seem unreasonable to expect that in some cases this fostered discussion, if not acceptance, of the kind of radical speculation that emanated from Spinozan circles.¹⁸

Just as English medical students of dissenter background tended to gravitate towards their own kind in Holland, so too on their return to England did they continue to collaborate with each other and to serve, overwhelmingly, the interests of their co-religionists. At Newcastle-upon-Tyne, for example, John Durant (d. 1684) and Richard Gilpin (1625–1700), who both graduated with MDs from Leiden in the

16 Matthews (ed.), *Calamy Revised*, pp. 410–11; Richard L. Greaves, *Deliver Us From Evil: The Radical Underground in Britain, 1660–1663* (New York and Oxford, 1986), pp. 177–80 and *passim*; Innes Smith, *English-Speaking Students*, pp. 119, 144, 194. Richardson was pastor to the English church at Haarlem from 1665 to 1670 and served in the same capacity at Leiden from 1670 to 1675. Among other services to his fellow countrymen and co-religionists in exile in Holland, he published a guide to the Dutch language in 1677.

17 For Guenellon and Veen, see Esmond Samuel de Beer (ed.), *The Correspondence of John Locke*, 7 vols (Oxford, 1976–82), vol. 2, pp. 738n–739n. Guenellon, whose medical studies at Leiden were interrupted by the plague (1667–8), graduated MD at Padua in 1670. He was responsible, among other things, for introducing Locke to Philip van Limborch, a close friend of Francis Mercurius van Helmont. Veen had graduated MD at Leiden in 1653, and offered Locke a safe house at Amsterdam in the summer of 1685. Through Guenellon, Veen and Van Limborch, Locke became a member of an informal gathering of physicians in Amsterdam which met to discuss a variety of medical and natural philosophical subjects; see Locke, *Correspondence*, vol. 2, p. 725n; vol. 3, p. 35n.

18 I hope to shed further light on the nature of this cultural and intellectual exchange in due course through an examination of hitherto neglected Dutch and other sources for the English presence in the United Provinces between 1660 and 1700.

1670s, formed the nexus of a dissenting medical community with connections to many neighbouring dissenter pastors who had either graduated at Leiden or acquired a medical education via alternative routes. Here, as elsewhere in England, it is worth noting the extent to which these men combined their medical and spiritual duties, despite the unspoken prohibition on such behaviour in puritan circles prior to the outbreak of civil war in 1642.¹⁹ Even the location of nonconformist meetings – illegal for most of this period – sometimes reaffirmed the close connection in dissenter circles between medical and spiritual matters. The meetings of the Newcastle dissenters, for example, frequently took place in the city's Barber Surgeons' Hall. It is also evident from the published sermons of the Leiden medical graduate, Richard Gilpin, that his audience on these occasions was exposed to much of the latest thinking on a range of medical and natural philosophical subjects – further evidence of the fact that recent developments in science and philosophy rapidly percolated down into mainstream society, even if we do not know precisely how it was received.²⁰

Similar groups of like-minded physicians, bound together by religious, political and personal bonds as well as, in many cases, a Dutch medical training, can be found operating elsewhere in England between 1660 and 1700. At Canterbury, for example, the apothecary-physician, Dr William Jacob, a leading figure in the dissenting community and Whig MP for the city in the first Exclusion Parliament, was probably responsible for sponsoring the medical studies of John Bemister at Leiden between 1677 and 1680. Jacob was known to both Thomas Sydenham and John Locke, the latter lodging with Jacob at Canterbury in September 1679. A year later, Jacob wrote

19 Matthews (ed.), *Calamy Revised*, pp. 174, 223–4; Innes Smith, *English-Speaking Students*, pp. 76, 94. Durant was the son of the puritan lecturer, William Durant (d. 1681), who was ejected from his post at Newcastle after the Restoration. In addition to his father, Durant dedicated his Leiden MD to his uncle, John Durant, the leader of a nonconformist congregation at Canterbury, Kent, and his teacher at Leiden, Franciscus de la Boë Sylvius. Gilpin cited the works of Thomas Willis and Sylvius in his 1677 thesis on hysteria, as well as in a series of sermons preached at Newcastle before that date. The latter were collected and published as *Daemonologica Sacra, or, a Treatise of Satans Temptations: in Three Parts* (London, 1677). Other members of this north-eastern network of dissenting physicians included the ejected ministers Patrick Bromfield (ejected Ellington, Northumberland, 1661); John Lomax (ejected Wooler, Northumberland, 1660; he practised as a physician, surgeon and apothecary at North Shields, and was harassed for his nonconformity); John Pringle (ejected Eglinton, Northumberland, 1662; he became an extra-licentiate of the London College of Physicians in the same year and practised medicine alongside Gilpin at Newcastle); and Gilbert Rule (MD Leiden 1665), who practised mainly at Berwick-upon-Tweed and was arrested for seditious preaching in 1678; Matthews (ed.), *Calamy Revised*, pp. 77, 327, 400, 420.

20 Both Pringle (above, note 19) and Gilpin were preaching at the Barber Surgeons' Hall in 1668; see *CSPD, 1668–1669*, p. 73. Among others, Gilpin cited in his *Demonologica Sacra* the works of Van Helmont (part 1, p. 32), Descartes (part 1, p. 79), Glauber (part 2, p. 211), Willis (part 2, pp. 307, 345) and Boyle (part 3, p. 113). Gilpin's reference to the role of acid humours in generating melancholy almost certainly derived from his Leiden teacher, Sylvius: *Demonologica Sacra*, vol. 2, pp. 299–300.

to Locke requesting his engagement in a 'paper commerce ... betweene Phisitians living at some convenient distance, especially in empiricall medicine'.²¹

It is impossible to say with certainty what impact the nascent Radical Enlightenment in Holland had upon these English medical students. Little evidence survives in the publications of these men to suggest that they were drawn to Spinozism, or, oddly, that they even discussed his writings and ideas. The published works of the Newcastle dissenter and Leiden-trained physician, Richard Gilpin, for example, contain no references to Spinoza, though Gilpin frequently attacks Hobbes for sowing the seeds of Sadducism and atheism in the minds of his contemporaries. His successor at Newcastle, Timothy Manlove (d. 1699), who also combined medicine with preaching, similarly decried Hobbes' materialism in relation to his views on the nature and composition of blood, but makes no mention of Spinoza.²²

As these examples suggest, it may well be that the religious conservatism of many nonconformist physicians who trained in Holland acted as a barrier to their reception of the more radical strains of Dutch thought. This was less likely to have been the case, however, for those political dissidents who sought refuge in the medical schools of the United Provinces. Many of these men, as we have seen in the case of Edward Richardson, were deeply implicated in plots against the restored regime of Charles II. It does not seem too far-fetched to suppose that former Cromwellians such as Richardson, who endeavoured to keep alive memories of republicanism and the 'good old cause' after 1660, would have found the radical political tracts produced by Spinoza and his associates highly congenial. Again, it is too early to say what impact these had on English-speaking medical students, and it would be intriguing to know more about the kind of social and intellectual circles which such men inhabited during their sojourn in Holland. The example of John Locke, briefly noted, is extremely suggestive. But what of the connections made by men such as

21 Innes Smith, *English-Speaking Students*, p. 20; Locke, *Correspondence*, vol. 2, pp. 801, 95, 259–60. Bemister's Leiden MD thesis (1680) was also dedicated to John Durant (uncle of John, above, note 19), the leading minister among the Canterbury nonconformists, who had fled into exile in Holland in 1679. Richard Bemister, surgeon, of Canterbury, and a member of Durant's congregation, was probably John's father. A warrant for his arrest as a suspicious nonconformist was issued in late 1665; Matthews (ed.), *Calamy Revised*, p. 173; Lambeth Palace Library, MS 639, fol. 154r; *CSPD, 1665–1666*, p. 42.

22 Gilpin, *Daemonologica Sacra*., vol. 1, pp. 31 (denial of witchcraft), 60 (Sadducism and denial of angels); vol. 3, p. 36 (Christ's temptation by the Devil not real, but a vision). Gilpin was of the opinion that there were 'few ... professed Atheists in Opinion', though many 'practical atheists'. He probably had Hobbes in mind again when he claimed that among the former were those who derided '[a]ll the comminations of Scripture ... as so many Theological Scarecrows, and undervalued as so many pitiful contrivances to keep Men in awe', *Daemonologia Sacra*., vol. 1, pp. 103, 104. For Manlove and Hobbes, see Timothy Manlove, *The Immortality of the Soul Asserted and Practically Improved* (London, 1697), p. 5. Though Manlove did not study at Leiden, he was educated by the ejected nonconformist schoolmaster and minister, John Woodhouse, a number of whose charges, including his own son, did graduate at the Dutch medical school; B[ritish] L[ibrary], Additional MS 4460, fol. 24v; Innes Smith, *English-Speaking Students*, pp. 177, 252.

Thomas Aylwin, Samuel Disbrowe and Joseph Gaylard, who all graduated from Leiden with medical degrees in this period?

Aylwin, who spent three years at Leiden between 1679 and 1682, was a protégé of the radical MP and former republican, Major John Breman (d. 1703). Both men came from Chichester, Braman being elected Whig MP for the borough during the Exclusion Crisis. He subsequently welcomed the Duke of Monmouth to the city and was suspected of involvement in the Rye House Plot.²³ Disbrowe, like Aylwin, also spent three years studying at Leiden for his MD, which he was granted in 1668. He was the son of Major-General John Disbrowe, Cromwell's brother-in-law, who played a key part in the government of England during the interregnum. Samuel Disbrowe dedicated his Leiden MD to his father John, Uncle Samuel and a Dutch merchant, George Gosfright. Gosfright was a former associate of the Baptist leader William Kiffen. In 1668, the two men were engaged in the export of factious books to England, using Gosfright's house in Amsterdam as a base for their activities. At the same time, it doubled up as a safe house for republican exiles like Major-General Disbrowe. Gosfright's activities were not surprisingly closely monitored by the English authorities.²⁴ Joseph Gaylard was a later political refugee, who graduated MD at Leiden in 1688. The son of an ejected Devon minister, he served as surgeon to the Duke of Monmouth and took part in the abortive rebellion of 1685. Captured after the Battle of Sedgemoor and reprieved, he wisely spent much of the reign of James II abroad in exile. On his return he became a candidate of the College of Physicians in 1694 and was later appointed physician to the armed forces in the West Indies.²⁵

Similar examples can be replicated many times over. Strange Southby, for example, who was expelled from Merton College, Oxford, for being a green ribbon man (in other words a republican) ended up studying medicine at Leiden between 1682 and 1683. Benjamin Temple, a nonconformist preacher in Lancashire, who obtained a medical licence from the College of Physicians in London in 1677, subsequently went to Holland to study medicine. While there he was recruited by agents of the Duke of Monmouth and ended up on the losing side at Sedgemoor.

23 Innes Smith, *English-Speaking Students*, p. 10; Basil Henning (ed.), *The House of Commons 1660–1690*, 3 vols (London, 1983), vol. 1, pp. 709–10.

24 Innes Smith, *English-Speaking Students*, p. 68; Richard L. Greaves, *Enemies Under His Feet: Radicals and Nonconformists in Britain, 1664–1677* (Stanford, CA, 1990), p. 199; *CSPD*, 1667–1668, p. 282; National Library of Ireland, Dublin, MS 4728, pp. 24–5. An old republican, Major George Gosfright had been made an officer in the London militia, 25 July 1659. He was also related by marriage to William Gough, a captain in the New Model Army; *Weekly Post*, 26 July–2 August 1659; Murray Tolmie, *The Triumph of the Saints: The Separate Churches of London, 1616–1649* (New York, 1977), p. 232n. For Gosfright's role in spreading rumours about the marriage of the king to the mother of the Duke of Monmouth during the Exclusion Crisis, see *CSPD*, 1679–1680, pp. 448, 451. He is probably the Mr Gosfright, who served as deputy paymaster to the forces under the Duke of Monmouth in Flanders in the late 1670s. In 1661, his activities were being closely monitored by the government; *CSPD*, 1660–1661, pp. 542, 546.

25 Innes Smith, *English-Speaking Students*, p. 92; Matthews (ed.), *Calamy Revised*, p. 219; W. McDonald Wigfield, *The Monmouth Rebels 1685* (Gloucester, 1985), p. 67.

Unlike Gaylard, however, he was not granted a pardon, but died on the gallows, a victim of Judge Jeffreys' Bloody Assizes.²⁶ Temple may have been recruited by fellow physician, Hugh Chamberlen (1664–1728), who enrolled in the medical faculty at Leiden in 1684. Chamberlen, the grandson of the radical physician and midwife, Peter Chamberlen (d. 1683), was a close confidante of the Duke of Monmouth and played a vital role in preparing the way for the duke's invasion of the West Country in the summer of 1685 (he rode around the country rallying support for the rebels' cause). Another thorn in the flesh of the Restoration authorities was Ichabod Chauncy (1635–1691), who took his Leiden MD in 1684 after being forced to abjure the land for his treasonable practices. Chauncy, who combined the practice of medicine with preaching at Bristol, was accused by one government agent in the city of poisoning the people's minds rather than curing their bodily ills.²⁷

It is hardly surprising, under the circumstances, that the government in England kept a close eye on the activities of these religious and political dissidents. In some cases, they even tried to intervene to prevent the Dutch universities from granting MDs to exiled British subjects. In 1684, for example, the English government attempted to pressurise the University of Leiden into refusing to award an MD to the Scottish Presbyterian and suspected plotter, Duncan Cummings. In the event, the Leiden authorities refused to accede to these demands, claiming that it did not take cognisance of such issues.²⁸

As these examples suggest, the practice of medicine had become a highly politicised activity in Restoration England. It was frequently used as a cover for subversive activity and, on occasions, was employed by the authorities themselves in order to spy on groups of dissidents and nonconformists. In the 1660s, for example, Edward Riggs, a radical-turned-informer, was set up in medical practice at Rotterdam to spy on his former colleagues. In England itself, government reports frequently alluded to the tendency of plotters to adopt a medical persona in order to pursue their subversive activity. The plotter Isaac Wilson, for example, was reported in 1666 to

26 Innes Smith, *English-Speaking Students*, p. 218; David Harley, "‘Bred up in the Study of That Faculty’": Licensed Physicians in North-West England, 1660–1760', *Medical History* 38 (1994): 403.

27 For Chamberlen, see British Library, Additional MS 4460, fol. 63v; Innes Smith, *English-Speaking Students*, p. 44; *CSPD, 1683–1684*, pp. 124, 132. His father, Hugh, was dismissed as one of the royal physicians in November 1682 (he was replaced by the ultra-loyal, Robert Brady), probably for political reasons, while Hugh the younger was eventually pardoned in June 1686; *CSPD, 1682*, pp. 546, 547; *CSPD, 1686–1687*, p. 163. For Chauncy, see Innes Smith, *English-Speaking Students*, p. 44; Matthews (ed.), *Calamy Revised*, p. 112; *CSPD, July–September 1683*, pp. 10, 266. Chauncy, too, was pardoned and allowed to return to England in March 1686; *CSPD, 1686–1687*, pp. 78, 89, 138.

28 Innes Smith, *English-Speaking Students*, p. 60. Cummings was a Scottish-born Presbyterian, who settled in Ireland after the Glorious Revolution, where he played a seminal role in helping to establish the King's and Queen's College of Physicians in Dublin in 1692. Typically perhaps for one of his religion, he combined the use of physic with prayers in his daily practice. When such means failed, he carefully ascribed this to the 'rebukes of providence to himself'; Raymond Gillespie, *Devoted People: Belief and Religion in Early Modern Ireland* (Manchester, 1997), p. 45.

be about to embark for Ireland under cover of practising physick, a subterfuge that would enable him to move from house to house 'with more security'. Significantly, perhaps, he was reported to have recently returned from Amsterdam, where his deception was uncovered.²⁹

Further evidence for the growing politicisation of medicine and the medical profession during the course of the seventeenth century can be found in the ever-growing numbers of medical men who were willing to stand for public office in this period. At the local level, physicians, surgeons and apothecaries increasingly served as the mayors of corporations, while countless others stood as burgesses or aldermen. Many physicians also performed valuable service as justices of the peace in their localities. At national level, a number of physicians were elected to Parliament, figures which taken together suggest that the traditional image of the apolitical medic in early modern England is somewhat wide of the mark.³⁰ The evidence that I have collected so far tends to suggest that the phenomenon of the office-bearing physician coincided with the growing politicisation of society following the breakdown of religious and political consensus in the 1630s. As the country slipped into civil war in the 1640s, and citizens and subjects were forced to take sides in the religious and political controversies of the day, medics were no more immune from this process of politicisation than other members of society. Indeed, the language of political debate frequently reflected and encouraged these developments. From 1640 onwards, royalists and parliamentarians, puritans and Anglicans, increasingly invoked medical terminology and adopted medical metaphors in order to explain the latest 'crisis' or turn of events. The notion of the body politic was widely invoked as both sides sought to appropriate this powerful image in order to legitimate their position. In the event, the divisions engendered by civil war and a further decade of religious and political experimentation and debate proved beyond the ability of the

29 For Riggs, see Matthews (ed.), *Calamy Revised*, p. 412; Alan Marshall, *Intelligence and Espionage in the Reign of Charles II, 1660–1685* (Cambridge, 1994), pp. 145–6. For Wilson, see Bodl[eian Library], Oxford, Carte MS 35, fol. 28; MS 219, fol. 61.

30 I hope to produce a comprehensive list of office-holding medical personnel in early modern England as part of a major prosopographical study of the medical profession in due course. The image of the politically disengaged physician has recently been revived by Margaret Pelling, who states that they strenuously 'avoided office-bearing at the civic as well as the parish level', and that 'an aldermanic physician is somehow a contradiction in terms'. She bolsters this claim by stating that the first mayor-physician in Britain took office in Lancaster in the 1740s; Margaret Pelling, *Medical Conflicts in Early Modern London: Patronage, Physicians, and Irregular Practitioners 1550–1640* (Oxford, 2003), p. 18. This is clearly erroneous. Among the roll call of seventeenth-century English mayor-physicians are: Francis Bannister, MD (Bedford, 1637); George Birch (sheriff and mayor of Norwich, 1604 and 1621 respectively); Robert Fielding (Gloucester, 1670); Henry Fowler (Gloucester, 1671); Martin Llewellyn, MD (High Wycombe, 1671); Silvester Richmond (Liverpool, 1672–3); Peter Salanova (Weymouth, 1672); Anthony Salter (Exeter, 1664); and John Tarleton (Lancaster, early 1680s). Aldermanic physicians appear with growing frequency from the late 1670s onwards. I should like to thank Margaret Pelling for discussing some of these issues, and for allowing me a preview of her forthcoming essay on the subject, 'Politics, Medicine and Masculinity: Physicians and Office-Bearing in Early Modern England', which sets the background for many of these issues.

'state physicians' to heal. The Restoration – an event that was itself widely depicted as an act of national healing – ultimately failed to unite the country, but not before men and women on both sides of the religious and political divide continued to invoke medically inspired prescriptions for the nation's ills.³¹

Under the circumstances, it is perhaps hardly surprising that medical men acquired a growing prominence in these debates. Charles II and James II, for example, employed various leading medical figures to utilise the facilities of the state's archives and records to construct and publish historical propaganda in support of the political status quo in the 1680s. Robert Brady (1627–1700), Regius Professor of Physick at Cambridge (1677–1700), combined teaching and medical practice with a passionate commitment to the Stuart cause, which was manifest in his historical writing and appointment as custodian of the records on the Tower of London in May 1686. He was also closely engaged in the examinations of those arrested in the aftermath of the Rye House Plot and as physician-in-ordinary to James II in October 1688, he swore on oath that the king's newborn son and heir was his genuine progeny.³² Likewise the Yorkshire physician, Nathaniel Johnston (d. 1705), was the author of a Tory defence of the Stuarts, which invoked the image of a divinely ordained and rigidly hierarchical body politic. He was rewarded for his labours by being granted freedom of access by James II to all state records and government archives in order, presumably, to further his activities as a publicist for the Tory cause.³³

As these examples suggest, political activism of this kind brought tangible rewards for physicians willing to serve the Stuart cause. It must also have engendered acute tensions within the medical profession, and, in some cases, encouraged medical practitioners to use the exercise of political power and office in order to promote

31 A good example of this process can be found in the circumstances surrounding the lively interest shown in the cures performed by the Irish miracle-healer, Valentine Greatrakes, in the 1660s. I am currently preparing a major new study of the Greatrakes episode (see note 11 above), which includes a chapter on the continuing vitality of notions of the body politic in post-Restoration political debate.

32 *CSPD, 1 January – 30 June 1683*, pp. 350–1; *CSPD, 1686–1687*, p. 147; *CSPD, 1687–1689*, p. 327. Brady was a student of Francis Glisson, his predecessor in the Regius chair, at Cambridge and an early supporter of Harvey. He also helped to popularise the use of quinine in fevers and corresponded with Sydenham on the treatment of rheumatism; John Gascoigne, *Cambridge in the Age of the Enlightenment: Science, Religion and Politics from the Restoration to the French Revolution* (Cambridge, 1989), p. 61. For a positive assessment of his status as a historian, see John G.A. Pocock, 'Robert Brady, 1627–1700: A Cambridge Historian of the Restoration,' *Cambridge Historical Journal* 10 (1950–52): 186–204. Brady also sat as MP for Cambridge University in 1681 and 1685, and was a JP for Middlesex and Westminster, 1687–9.

33 *CSPD, 1686–1687*, p. 367; *CSPD, 1687–1689*, pp. 14, 99. A keen naturalist, Johnston corresponded in the 1670s with the Yorkshire physician and virtuoso, Martin Lister, on a number of topics, including experiments with spa waters and microscopical observations which he had carried out on 'the minuter parts of plants'. He was also interested in strange and difficult births, and was clearly practising midwifery with his own specially adapted instruments; Bodl., Lister MS 35, fols 9–20, 36, 39. He was the author of *The Excellency of Monarchical Government* (London, 1686), which he wrote and researched in collaboration with his political ally, Brady.

their own practices at the expense of their religious and political rivals. Something of this kind might explain the extraordinarily bitter dispute over the succession to the mayoralty which broke out at Gloucester in 1670. The two factions – proto Whig and Tory in orientation – were led by the city's two physicians, Robert Fielding and Henry Fowler, the latter ultimately gaining the ascendancy. It was widely mooted that he should be rewarded for his loyalty with the award of an honorary Oxford MD, but there is no evidence that he ever received his degree.³⁴

This process of politicisation was one that extended beyond medicine into the sphere of the 'new science' and natural philosophy, and has been used by historians of science to account for the reception of scientific and medical innovation. Jonathan Israel himself has seen the process as an essential ingredient or stepping stone on the path to the Radical Enlightenment, focusing on England and Holland as the first two European states where 'the prevailing pattern of confessionally regulated cultural cohesion progressively disintegrated' because of intellectual and political conflict. As a result, he believes that the governing authorities in the two states felt a growing need to regulate such debates, in the process 'rendering philosophical matters an integral and essential part of their statecraft'.³⁵ In the event, secular authorities in Holland and England proved no more successful than the churches in imposing uniformity of belief upon their citizens. Consequently, medical practitioners, who like other subjects were divided on a range of issues and were subjected to government restraints, continued to pursue their social, religious and political aims in an atmosphere of growing intellectual freedom. For many physicians in Holland, this led to a burgeoning engagement with various aspects of Radical Enlightenment thought, including political and religious radicalism, which was most evident in the circle of medically trained associates and friends surrounding Benedict Spinoza. In England, however, where the preconditions for freethinking had been firmly laid by the Civil War and its aftermath, no such movement encouraging radical speculation on the Dutch model is evident. On the contrary, the politicised refugees who fled England to live and study in the United Provinces after 1660 would appear to have imbibed little of this new intellectual movement, which, *pace* Israel, does not appear to have put down deep roots in late seventeenth-century England. Why, we may ask, was this so?

One answer for what is most certainly a complex and multi-faceted issue may be found in the response of English physicians to one of the most controversial aspects

34 The broad outlines of this dispute are sketched in Paul D. Halliday, *Dismembering the Body Politic: Partisan Politics in England's Towns 1650–1730* (Cambridge, 1998), pp. 178–82; see also CSPD, 1670, with Addenda 1660–1670, pp. 419–20, 428, 431, 448, 455; CSPD, 1671, pp. 411–2, 419, 429, 507, 513; The National Archives (formerly Public Record Office), Kew, PC 2/62, pp. 280–1, 297. Fowler was probably the medical practitioner mentioned as the son of the sequestered minister, Henry Fowler, rector of Minchinhampton, Gloucestershire. In 1643, all his possessions, including aurum potable and a box full of bezoar stones were reputedly smashed to pieces by parliamentarian soldiers; Bruno Ryves, *Mercurius Rusticus* (Oxford?, 1646), p. 158; A.G. Matthews (ed.), *Walker Revised: Being a Revision of John Walker's 'Sufferings of the Clergy during the Grand Rebellion' 1642–60* (Oxford, 1948), p. 173.

35 Israel, *Radical Enlightenment*, p. 24.

of Spinozan freethinking, namely the debate surrounding the existence of witches, demons and spirits. Denial of witchcraft was a central tenet of the Spinozism. In the United Provinces, heated debate on this topic was largely theoretical and academic in tone since actual witch trials had long ceased. This was not the case in England, however, where they continued, albeit with increasing rarity, for much of the rest of the century. The response of English physicians to witchcraft – particularly those who trained in Holland – thus provides a potentially useful source for anyone wishing to chart the impact of Spinozan radicalism upon English free thought. In addition, the reaction of physicians and the wider public to witchcraft is particularly instructive since it was clearly not an abstruse or arcane aspect of medical theory, but rather an issue that arose with some frequency in the everyday practice of doctors and laymen and was widely debated by non-specialists.³⁶

With one exception – that of the Yorkshire physician, John Webster (1611–82) – no other English medical practitioner wrote against the belief in witchcraft between 1660 and 1700. Webster himself is an interesting exception in that he wrote from the perspective of a former religious radical, who was firmly committed to the new science in all its guises. In many ways, therefore, he does fit the criteria laid down by John Henry in that he clearly did understand, and engage with, the complex arguments of his medical contemporaries, including Francis Glisson (1599?–1677), whose erudite and heterodox *Treatise on the Energetic Nature of Substance* (1672) he quoted at length in his sceptical tome on witchcraft.³⁷ Webster was also, of course, profoundly indebted to the work of the iatrochemist, Jan Baptist van Helmont (1579–1644), whose monistic natural philosophy may have influenced the early direction of the Dutch Radical Enlightenment.

Few fellow physicians would appear to have followed Webster, however, in invoking Van Helmont as a witchcraft sceptic, despite the fact that his works were widely read and cited by English physicians and natural philosophers. The same would appear to be true of the influence exerted on English physicians by that other great shibboleth of the Radical Enlightenment, Thomas Hobbes. The Devon physician, Robert Vilvain (d. 1662), was probably typical when in 1656 he wrote a passionate attack on Hobbes, the centrepiece of which was a denial of his views on witchcraft.³⁸ Vilvain's approach would appear to have been widely shared by other members of the medical community since few Hobbist physicians have come to light.

36 See also John Henry's discussion of the unintelligibility of the work of the Cambridge anatomist, Francis Glisson, one of the few English physicians of this period who was willing to engage in radical philosophical speculation as a result of his medical research; Henry, 'The Matter of Souls', p. 93. Henry stresses the fact that Glisson wrote in Latin, and that his *Treatise on the Energetic Nature of Substance* (London, 1672) was 'incomprehensible without an advanced knowledge of the typical concerns, arguments and tropes of the learned traditions of renaissance humanism'.

37 John Webster, *The Displaying of Supposed Witchcraft* (London, 1677), pp. 306, 310–12. For a new, annotated edition of this important work, see *English Witchcraft 1560–1736*: vol. 4 *The Post-Restoration Synthesis*, ed. Peter Elmer (London, 2003). For a brief synopsis and contextualisation of Webster's treatise, see my introduction to this volume, pp. vii–xxii.

38 Robert Vilvain, *Theoremata theologica: Theological Treatises* (London, 1654), pp. 239r–v. Vilvain was a moderate episcopalian and royalist, who would appear to have made

Henry Stubbe (1632–76) had certainly been influenced by Hobbes in the 1650s, and was widely perceived as a Hobbist after the Restoration. However, as James R. Jacob has shown, Stubbe's materialism was more indebted to his old-fashioned, radical Galenism, than it was to either Hobbes or Spinoza.³⁹ A more obvious candidate was the young physician, Richard Blackburne (1651 or 1652 – 1716), who the antiquary John Aubrey employed to write a life of Hobbes based on the notes that he had collected over many years. Aubrey had originally hoped that another physician, Sir George Ent, might be persuaded to do the job. In the event, the work was published in 1681 by Blackburne, whom Aubrey described as a great scholar, who 'practises but little' and was a 'mighty read man'. He also described him as a 'φιλο Hobbist', who 'hath harried all Mr H[obbes']s adversaries'.⁴⁰

The lack of interest shown by physicians in Restoration England for radical philosophical speculation, particularly in relation to witchcraft, is somewhat baffling given the traditional context in which the decline of witchcraft has been depicted by historians. Generally speaking, we are told that Anglicans abandoned belief in supernatural affliction in favour of rationalist accounts of phenomena such as a witchcraft and possession. But if this was the case, why, one might ask, was there not more support for the kind of scepticism displayed by physicians like Webster, and why did physicians generally appear to play so little part in the demise of witch trials?

In what follows, I sketch the outlines of one possible solution to this conundrum. It focuses on the role played by nonconformist physicians, a growing and influential body in English medicine after 1660, particularly in relation to their combination of religious and medical interests which one historian has described as 'nothing short of remarkable'.⁴¹ A staple element of post-Restoration nonconformist culture was its attachment to the belief in witchcraft and the physical reality of demonic possession. Nonconformist physicians, as David Harley has shown in his discussion of the case of Richard Gilpin, were acutely aware of the range of possible causes – natural, demonic or preternatural, or divine – that might be invoked to explain the physical and mental anguish suffered by patients. Unlike their Anglican counterparts, they

enemies with the restored party in Exeter after the Restoration; see Vilvain, *Theoremata theologica*, pp. 219r–v; *CSPD, 1661–1662*, pp. 495, 496.

39 James R. Jacob, *Henry Stubbe, Radical Protestantism and the Early Enlightenment* (Cambridge, 1983), p. 61 and *passim*.

40 Michael Hunter, *John Aubrey and the Realm of Learning* (New York, 1975), pp. 60n, 78–9. Blackburne graduated MD from Leiden in 1676; for details of his career, see Innes Smith, *English-Speaking Students*, p. 23.

41 William J. Birken, 'The Dissenting Tradition in English Medicine of the Seventeenth and Eighteenth Centuries', *Medical History* 39 (1995): 197–218; see p. 197. In this important article, Birken makes a number of observations that underscore my own comments (above) in relation to the growing politicisation of medicine in England after 1660. Foremost among these are his reference to the large number of ejected ministers who took up the practice of medicine in the Restoration; the highly qualified nature of this body of doctors; and the encouragement and support that they received from high-ranking puritan members of the London College of Physicians, particularly during periods of acute religious and political crisis. I hope to elaborate on these observations in future publications.

frequently combined the practice of medicine with spiritual duties and were thus able, in Harley's words, to offer 'to their congregations an effective practice of psychological medicine since they alone in restoration England could offer a suitable blend of religion and medical advice'.⁴² Crucially, they did so, not as medical obscurantists, but rather as well informed and highly qualified physicians, who were fully receptive to the latest developments in medicine and eager to apply them in their everyday practice.

That this was the case should come as no surprise given the fact that so many of their number were forced to seek medical training abroad in what were by the standards of the day the most advanced medical schools in Europe. Unfortunately, we know very little about this aspect of the nonconformist experience, and how English medical students with a dissenter background reacted to, or rather interacted with, the latest medical theories and ideas that emanated from places like Leiden and Utrecht. One potentially useful source in this respect is the dozens of published medical theses which survive from this period. An initial perusal of a sample of this vast literature clearly confirms my initial suspicion that English medical students who sought MDs from Dutch universities eagerly engaged with the latest developments in medical theory and practice. More significant, however, in the context of the present discussion is the subject matter of many of these, particularly those written by men who had previously pursued a clerical career and were now, in the altered conditions of the Restoration, retraining as medics with the aim of providing physical and spiritual care to their co-religionists.

What is striking about a large number of these dissertations is the extent to which they focused on medical topics that were theologically, as well as medically, problematic. Examples include hysteria, epilepsy and apoplexy, diseases that were widely debated by physicians in cases where witchcraft or possession was suspected. The example of Richard Gilpin, previously cited, is a case in point. His Leiden MD of 1676 on hysteria clearly arose out of a practical concern to differentiate between the various causes of this affliction in order to comfort or chastise members of his congregation. Similar motives may have informed the choice of subject of other nonconformists who graduated with Leiden MDs.⁴³ In all these cases, it is important to point out that the issues raised in these theses were not merely academic in kind, but that they occupied a central place in the everyday practice of men such as Gilpin and his like-minded colleagues. Between 1660 and 1700, cases of witchcraft and

42 David Harley, 'Mental Illness, Magical Medicine and the Devil in Northern England, 1650–1700', in French and Wear (eds), *The Medical Revolution of the Seventeenth Century*, pp. 114–44; see p. 124. Birken, too, notes that 'mental illness was always a strong Puritan interest'; Birken, 'The Dissenting Tradition', p. 213.

43 Richard Gilpin, *Disputatio medica inauguralis: De hysterica passione* (Leiden, 1676). George Anderson dedicated his 1695 Leiden MD on hypochondria, a condition related to melancholia, to Gilpin and the nonconformist teacher, Richard Morton: Innes Smith, *English-Speaking Students*, p. 5. Other Leiden MDs on related topics produced by English dissenters include: Samuel Jordan (1678) and Adam Holland (1687) on hysteria; George Long (1668) and Joseph Gaylard (1688) on convulsions; James Oviatt on epilepsy. The fifth monarchist John Rogers wrote his Utrecht MD thesis on apoplexy; Innes Smith, *English-Speaking Students*, pp. 130, 119, 144, 92, 175.

possession were widely reported in nonconformist communities throughout Britain, though few ever found their way to court. In the vast majority of these cases, dissenter physicians, or other practitioners sympathetic to the plight of the dissenters, played a prominent role in diagnosing diabolism as the source of affliction. In time, these stories were collected and printed alongside other instances of supernatural and providential occurrences – not as a dispassionate record of the blessings and misfortunes to befall the godly and profane, but rather as a comment on the general depravity and sinfulness of the times. Not surprisingly, such accounts became suspect in the eyes of their persecutors, providing in the process one explanation for the growth of scepticism with respect to witchcraft in late-seventeenth-century England.⁴⁴

Witchcraft then, like medicine, was becoming highly politicised in Restoration England. In dissenter circles, it served many purposes, offering an explanation for the nonconformists' sufferings as well as standing as a rebuke to their oppressors. As such, it would be wrong to dismiss the nonconformist attachment to belief in witchcraft and diabolical possession as merely a form of propaganda or a convenient vehicle for the expression of anti-establishment views. To argue thus would be to minimise the real pain and suffering which nonconformists endured during the confused years of the Restoration, and for which belief in witchcraft acted as a genuine outlet for the expression of that anxiety and repression. Historians have perhaps paid too little attention to the tortuous, complex and long-drawn-out process whereby nonconformity acquired a distinctive culture and set of beliefs after 1660. Many of its leaders, such as Richard Baxter, refused to accept the inevitability of permanent separation from mainstream religious and political culture; others only slowly became resigned to the fact. What historians have failed to appreciate in this process is the extent to which such enforced separation impacted upon the spiritual and mental well-being of large numbers of dissenters. Many, in all probability the majority, were reluctant dissidents, forced to defend their way of life and values in the face of legal repression. In addition, exclusion from the body politic was coupled with official denunciations that lumped together all nonconformists, regardless of their specific religious orientation, under the catch-all label of 'fanatics' and 'enthusiasts'. Under the circumstances, we should not be too surprised to find that more moderate nonconformists such as Presbyterians and Congregationalists – many of whose leaders had once ruled the country – appeared to manifest disproportionately high levels of mental suffering in the Restoration, which in certain cases were diagnosed by sympathetic physicians as diabolical in origin.⁴⁵

44 For a broader discussion of this phenomenon, and its relation to religious and political developments in England after 1660, see my 'Towards a Politics of Witchcraft in Early Modern England', in Stuart Clark (ed.), *Languages of Witchcraft: Narrative, Ideology and Meaning in Early Modern Culture* (Basingstoke, 2001), pp. 101–18.

45 A useful indicator of the incidence of high levels of mental anxiety among nonconformists is provided by the biographies of ejected clergy collected by Edmund Calamy at the end of the seventeenth century. These include countless references to former ministers, who are described as suffering from various forms of mental illness (distraction, melancholy, etc) after the Restoration. It is also worth noting that many ejected ministers who took up the practice of medicine after 1660 specialised in the care and cure of such afflictions. John

It is obviously difficult to provide hard statistical evidence to support my hypothesis linking post-Restoration nonconformity with high levels of mental illness, including those of diabolical origin. Nonetheless, the weight of circumstantial evidence does appear to bear out what both Michael Macdonald and Erik Midelfort have found in their studies of madness in pre-civil war England and Germany, namely that communities exhibiting high degrees of religious anxiety and conflict tend to produce high incidences of mental illness.⁴⁶ In effect, what I am suggesting here is the idea that the Restoration of the Stuarts was partly responsible for engendering 'madness', bewitchment and related illnesses in an acutely vulnerable section of the population. Nonconformist society was essentially a 'sickness culture', one predisposed to account for the mental sufferings and physical torments of its members by recourse to a wide range of 'psychosomatic' complaints than ran the gamut from the physical to the demonic in origin. As such, those charged with ministering to the physical and spiritual needs of their persecuted co-religionists (often one and the same person) played a key role, and often one imbued with political meaning, in validating the experience of those who claimed to be bewitched. Predisposed to accepting the role of the devil and witches in the sublunary world, they thus shaped the latest medical thinking to fit these ends. To a large extent, as we have seen, English nonconformist physicians acquired their medical knowledge from the most advanced medical schools in Europe, those of the United Provinces. But in choosing this route, they appear to have been impervious to the lure of the Radical Enlightenment, an outcome that was in large part indebted to the special religious and political circumstances that helped shape the dissenters' approach to health and sickness in post-Restoration England.

Courtman, for example, was renowned in dissenter circles for curing the distracted and those suffering from paralytic distempers. Likewise, Samuel Stoddon, a West Country minister, who also supplied Baxter with instances of supernaturally induced illnesses for his work on witchcraft; see Matthews (ed.), *Calamy Revised*, pp. 138–9, 464–5; Richard Baxter, *The Certainty of the World of Spirits* (London, 1691), p. 51. It is also interesting to note that the Leiden MD and émigré, Edward Richardson (see above), gained a reputation for curing the mad by using a form of water treatment adapted from J.B. van Helmont; Francis Mercury van Helmont, *The Spirit of Diseases* (London, 1694), p. 43.

46 Michael Macdonald, *Mystical Bedlam: Madness, Anxiety, and Healing in Seventeenth-Century England* (Cambridge, 1981), pp. 68–9; H.C. Erik Midelfort, *A History of Madness in Sixteenth-Century Germany* (Stanford, CA, 1999), p. 386.

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Psychology and the Laws of Nature: From Souls to the Powers of the Mind in the Scottish Enlightenment

John Henry

One of the most certain conclusions emerging from the recent historiography of the origins of a scientific psychology, is that the story is complex and multifaceted. Historians have recognised the original springs of modern psychology in post-Cartesian studies of the physiology of the brain and nervous system, and subsequent work in eighteenth- and nineteenth-century neurophysiology; in attempts to understand the mind in the wake of Locke's *Essay Concerning Human Understanding*, and in other aspects of the history of epistemology, including the associationist theory of ideas, and Scottish 'Common Sense' realism; in theories of political economy and associated attempts to develop a proto-anthropology and a proto-sociology; in ideas on the nature of language; theories of animal (including human) evolution; theories of development associated with new educational thinking; studies of memory; studies of dreaming; and of insanity; in physiognomy and other studies of 'character'; in craniology or phrenology and subsequent – or rival – theories of brain localisation; in mesmerism; and even in the possessive individualism which is seen as a concomitant of capitalism. All of these factors, and perhaps a few more, not listed here, need to be taken into account, if we are to understand the emergence of this new science.¹

Perhaps as a direct result of this complexity, historians of psychology continue to argue about which strands in this history should be regarded as the most important. The aim of this paper is not to enter into such discussions, but merely to add a further aspect to the story, which has not so far been recognised. Gary Hatfield has rightly

1 Since *psychologia*, the study of souls or minds as aspects of the natural world, had a long history in the medieval universities, it is perhaps better to talk of the transformation of psychology into something significantly different from what it was before. Gary Hatfield has referred to this as the 'remaking' of psychology. See, G. Hatfield, 'Remaking the Science of the Mind: Psychology as Natural Science', in Christopher Fox, Roy Porter and Robert Wokler (eds), *Inventing Human Science: Eighteenth-Century Domains* (Berkeley, CA, 1995), pp. 184–231. For general histories of psychology see, for example, D.B. Klein, *A History of Scientific Psychology: Its Origins and Philosophical Backgrounds* (New York, 1970); L.S. Hearnshaw, *The Shaping of Modern Psychology* (London and New York, 1987); Thomas H. Leahey, *A History of Psychology: Main Currents in Psychological Thought*, 2nd ed. (Englewood Cliffs, NJ, 1987); Graham Richards, *Mental Machinery: The Origins and Consequences of Psychological Ideas, Part I: 1600–1850* (London, 1992); and Graham Richards, *Putting Psychology in Its Place: An Introduction from a Critical Historical Perspective* (London and New York, 1996).

pointed to the dominance in the traditional historiography of what we now think of as quintessentially scientific factors: ‘there has been a decided tendency to equate “natural scientific psychology” with “quantitative, experimental psychology”, and to contrast the “scientific” character of this psychology with the “metaphysical” character of its earlier namesake.’ The reason for this tendency, Hatfield suggests, is the glib equation between modern science and *quantitative* science.²

There is, however, another defining characteristic of modern science, which can clearly be seen, before the development of quantitative and experimental psychology, in what might otherwise be considered the ‘metaphysical’ background to psychology. This is the concept of laws of nature. As Émile Meyerson wrote, ‘Where there is no law, there is no science.’³ For Edgar Zilsel, the discovery and understanding of laws of nature became characteristic of the scientific endeavour after Descartes and especially Newton, and remains so to this day.⁴ It is the contention of this paper that the attempts to introduce laws of nature into the understanding of the workings of the human mind by the Scottish ‘common sense’ philosophers, should be considered as another important strand in the development of a scientific psychology.⁵ Hitherto the role of this Scottish school has been seen in terms of its development of the concept of mental faculties, and a possible influence upon theories of brain localisation.⁶ The significance of their discussions of the importance of establishing the natural laws by which the mind operates has been overlooked. It is possible that these discussions have been overlooked by previous historians of psychology because the primary purpose of demonstrating the laws, for the members of the school, was religious in intent.

It is easy to see that the motivation for the introduction of laws of nature into the ‘science of the mind’ by these Scottish thinkers was almost entirely theological. It is well known that Thomas Reid hoped for a ‘Newton’ of the natural philosophy of the mind who would ‘produce a system of the powers and operations of the human mind, no less certain than those of optics or astronomy’.⁷ In view of Reid’s attempts to introduce the concept of laws of nature into his own philosophical system of the powers of the mind, it seems likely that Reid hoped he might prove to be that

2 Hatfield, ‘Remaking the Science of Mind’, p. 185.

3 Émile Meyerson, *Identity and Reality* (London, 1930), p. 25.

4 Edgar Zilsel, ‘The Genesis of the Concept of Physical Law’, in E. Zilsel, *The Social Origins of Modern Science*, ed. D. Raven, W. Krohn and R.S. Cohen (Dordrecht, 2000), pp. 96–122. For an excellent overview of the importance of laws of nature in science see, Friedel Weinert, ‘Laws of Nature – Laws of Science’, in F. Weinert (ed.), *Laws of Nature: Essays on the Philosophical, Scientific and Historical Dimensions* (Berlin, 1995), pp. 3–64.

5 Alexander Broadie has pointed out the importance to Thomas Reid of showing that the mind was as amenable to analysis by scientific methodology as matter. See A. Broadie, ‘The Human Mind and Its Powers’, in A. Broadie (ed.), *Cambridge Companion to the Scottish Enlightenment* (Cambridge, 2003), pp. 60–78; especially pp. 71, 74. He does not, however, draw attention to the importance of laws of nature in Reid’s programme. Neither does Roger D. Gallie, *Thomas Reid and ‘The Way of Ideas’* (Dordrecht, 1989).

6 See, for example, Klein, *History of Scientific Psychology*, pp. 638–46.

7 Thomas Reid, *Essays on the Powers of the Human Mind* (London, 1827), p. vii. See also Broadie, ‘Human Mind and Its Powers’.

Newton. But the issue was not merely one of personal aggrandisement. Reid and those of his followers who were engaged upon the same pursuit, Dugald Stewart, Adam Ferguson and Sir William Hamilton, wanted to combat the sceptical and downright irreligious claims about the nature of mind which developed in European philosophy in the wake of the crisis caused by Descartes's theory of strict substance dualism.

If laws of nature were seen as the *sine qua non* of sound natural philosophy in the post-Newtonian period, it was not just because they seemed to guarantee the certainties of the scientific approach. They also, as we shall see, seemed to guarantee the providence of an omnipotent God. Inanimate bodies cannot 'obey' laws of nature. The concept of the law of nature, therefore, has to be underwritten by God. The laws of nature are in fact a shorthand way of referring to the constant operations of the universe which God always maintains.⁸ In what follows, I will argue that the history of the origins of modern scientific psychology is incomplete without taking in to account the role played by the notion that the mind, no less than the material world, has its own natural laws. Furthermore, I shall argue that the idea of laws of the mind was itself fostered not only to put psychology on a scientific footing, but also to find an alternative way of using the human mind to prove the existence of God, in an age when the concept of the soul had finally been excluded from philosophical discussion.⁹

* * *

The history of psychology is still only beginning to emerge from earlier internalist histories rendered unreliable by whiggism and presentism. Part of the problem with these earlier histories, as Robert M. Young has pointed out, is that they are written 'by those who view the past through spectacles crafted in the workshops of current disciplinary boundaries'.¹⁰ Accordingly, as Gary Hatfield has pointed out, the history of psychology has tended to be the history of quantitative, experimental psychology, in other words what passes for 'scientific psychology', while earlier attempts to understand the operations of the human mind are written out of the story as being mere 'metaphysics'. Graham Richards' recent claim that 'No discipline calling itself Psychology existed prior to the mid-nineteenth century', should be contrasted with Gary Hatfield's claim that 'psychology considered as a natural science already had

8 For discussion of this in a major primary source see, Robert Boyle, *A Free Enquiry into the Vulgarly Received Notion of Nature* (1686), ed. Edward B. Davis and Michael Hunter (Cambridge, 1996). For a recent secondary discussion see, John Henry, 'Metaphysics and the Origins of Modern Science: Descartes and the Importance of Laws of Nature', *Early Science and Medicine* 9 (2004): 73–114.

9 This is also argued below, but in the meantime see, for example, Warren S. Brown, Nancey Murphy and H. Newton Malony (eds), *Whatever Happened to the Soul? Scientific and Theological Portraits of Human Nature* (Minneapolis, MN, 1998).

10 Robert M. Young, 'The Role of Psychology in the Nineteenth-Century Evolutionary Debate', in R.M. Young, *Darwin's Metaphor: Nature's Place in Victorian Culture* (Cambridge, 1985), pp. 56–78; see p. 68.

a long history as the eighteenth century began'.¹¹ Hatfield is surely correct in his assertion that psychology was a part of natural philosophy right from its beginnings in the medieval universities, being based chiefly on the study of Aristotle's *De anima*, *On the soul*, and often referred to by its masters and students as 'psychologia'.¹²

Bearing in mind that natural philosophy, throughout the Middle Ages, was regarded as the dutiful handmaiden to the Queen of the Sciences, Theology, it is hardly surprising that the interface between *psychologia* and *theologia* was far more extensive than that between theology and any other aspect of natural philosophy.¹³ Accordingly, this was an area where science and religion clashed (though not as an inevitability, but simply because some natural philosophers, for reasons of their own, decided to emphasise some pre-Christian, or Muslim, interpretations of the soul).¹⁴ For our purposes here, however, what is important about orthodox medieval and Renaissance psychology – that is to say, the psychology which the Church was happy to go along with – is that it did present a picture in which the mind was a power or faculty of the soul. What's more, unlike the other faculties of the soul – the vegetative and sensitive powers, appetite and local motion – which were all necessarily closely associated with bodily organs, the mind could be, and was, held to be independent of any corporeal organ. According to the Thomist account, the immateriality of the mind was enough to guarantee the separability of the soul from body – but since the soul was held to be the substantial form of the body, it is impossible not to conclude that the lack of critical examination of this claim was due to a collective complacency about the truth of Church dogma (in Aristotelianhylomorphism, matter and form were equally co-dependent on one another – it ought to be the case that one cannot exist without the other). The inconsistency was pointed out by Pietro Pomponazzi, but this simply meant that, for those anxious about Pomponazzi's claims, an alternative view to the Thomist view emerged, which allowed for a substantial form of the mind which could be seen to be separable from

11 Richards, *Putting Psychology in Its Place*, p. 10; Gary Hatfield, 'Remaking the Science of the Mind', p. 184.

12 Hatfield, 'Remaking the Science of the Mind', p. 184.

13 See, Emily Michael, 'Renaissance Theories of Body, Soul, and Mind', in John P. Wright and Paul Potter (eds), *Psyche and Soma: Physicians and Metaphysicians on the Mind-Body Problem from Antiquity to Enlightenment* (Oxford, 2000), pp. 147–72. On natural philosophy as a handmaiden to theology see, David Lindberg, 'Science as Handmaiden: Roger Bacon and the Patristic Tradition', *Isis* 78 (1987): 518–36; and Roger K. French and Andrew Cunningham, *Before Science: The Invention of the Friars' Natural Philosophy* (Aldershot, 1996).

14 Most notoriously, Siger of Brabant (c. 1240–84) and Boethius of Dacia (*fl.* 1270), both of whom adopted strictly Aristotelian ideas on the soul which they learned from the Andalusian philosopher known as Averroes (1126–98). Similar views were reiterated in the Renaissance by Pietro Pomponazzi (1462–1525). See Michael, 'Renaissance Theories of Body, Soul, and Mind'; Edward Grant, *God and Reason in the Middle Ages* (Cambridge, 2001); Martin L. Pine, *Pietro Pomponazzi: Radical Philosopher of the Renaissance* (Padua, 1986); John Forrester and John Henry, *Jean Fernel's On the Hidden Causes of Things: Forms, Souls, and Occult Diseases in Renaissance Medicine* (Leiden, 2005), esp. pp. 37–43.

the body (because it was superadded to the body, which was now held to have its own inseparable substantial form – so there were two substantial forms).¹⁵

Although there were numerous problems with the Christianised Aristotelian view of the soul, the mind–body problem was not really one of them. As the substantial form of the matter comprising the body, the soul was part and parcel of the body, soul and body were effectively a unity during the earthly life of the person. This all changed, of course, after Descartes, and after the advent of the other new philosophies. Cartesian dualism immediately raised the issue of how a *res cogitans* could interact with a *res extensa* even though they were categorically distinct entities. But that wasn't all: Descartes's *Traité de l'homme*, which appeared posthumously in 1664, provided mechanistic accounts of so many aspects of our mental lives (including, for example, joy and sadness) that it was difficult to know where the *res extensa* ended and the *res cogitans* began (so to speak!). Similarly, it was difficult to know from Thomas Willis's *De anima brutorum* (1672), what was *not* explicable in terms of the material animal soul, and could only be attributed to the immaterial, immortal soul.¹⁶ One of the undoubted consequences of these developments was the increasingly atheistic interpretation not only of the nature of living systems, but also of the human mind. The trend is clearly demonstrated in La Mettrie's *L'Homme machine* (1747), and *L'Homme plante* (1748), and in Denis Diderot's *Rêve de d'Alembert* (1769, but not published until 1830).¹⁷

After Descartes, natural philosophy was never the same again, and psychology was affected as much as everything else.¹⁸ The way in which Cartesian dualism was stated caused a crisis in the traditional dualism of the Christian churches. The interaction between soul and body, once explicable in terms of Thomistic Aristotelian philosophy, was now thoroughly problematic. There are, of course, all sorts of different stories to be told about the development of psychology after Descartes, including the backlash against mechanicism and the revival of a more vitalist approach to living systems, which in turn stimulated neurophysiology, and the concern with sensibilities, and even insanity.¹⁹ What does not appear in the lists of relevant historical developments, however, is any sense that there were urgent discussions among natural philosophers about the nature of the immortal soul. It is almost as though the concept of soul simply faded from natural philosophy. Certainly, the concept of the soul lingered on in theological discussion, but after centuries as an important aspect of natural philosophy, it was replaced by the notion

15 Michael, 'Renaissance Theories of Body, Soul, and Mind'.

16 René Descartes, *The World, and Other Writings*, ed. Stephen Gaukroger (Cambridge, 1998); Thomas Willis, *De anima brutorum quae hominis vitalis ac sensitiva est, exercitationes duae* (Oxford, 1672).

17 Julien Offray de La Mettrie, *Machine Man and Other Writings*, trans. Ann Thomson (Cambridge, 1996); Denis Diderot, *Rameau's Nephew and d'Alembert's Dream*, trans. Leonard Tancock (Harmondsworth, 1966).

18 For the most recent assessment, see, Dennis Des Chene, *Life's Form: Late Aristotelian Conceptions of the Soul* (Ithaca, NY, 2000); and D. Des Chene, *Spirits and Clocks: Machine and Organism in Descartes* (Ithaca, NY, 2001).

19 Thomas S. Hall, *History of General Physiology, 600 BC to AD 1900*, 2 vols (Chicago, IL, 1969); Klein, *A History of Scientific Psychology*; Leahey, *A History of Psychology*.

of 'mind', which was not the same thing.²⁰ To be sure, there are passing mentions of the soul, which suggest that its existence is still taken for granted, but that is all. Even Hume, for example, could glibly talk of 'all our sensations, passions and emotions, as they make their first appearance in the soul', but if asked what he meant by the soul, he would surely have revealed that he should have said 'mind'. Whereas Pomponazzi's sixteenth-century denunciation of the philosophical coherence of the concept of an immaterial soul generated a huge contemporary response, a response which continues to shape historical accounts of the development of Renaissance philosophy, the response to La Mettrie and the baron d'Holbach, who simply dismissed the notion of an immaterial soul, seems insignificant in comparison.²¹ To be sure, their ideas were denounced, but the denunciations did not give rise to new ideas about the nature of the immaterial soul, nor to new arguments in its defence, nor even to a major comprehensive re-statement of what could be salvaged from the pre-Cartesian pneumatological tradition.²² What's more, the pamphleteers who wrote against La Mettrie and d'Holbach are now only remembered by specialist historians. It is not just our secular outlook which makes us think of the age of La Mettrie and d'Holbach as an age of materialism – not even the most ardent anti-

20 For a discussion of the soul in religious debate see, for example, Thomas Ahnert, 'The Soul, Natural Religion and Moral Philosophy in the Scottish Enlightenment', *Eighteenth-Century Thought* 2 (2004): 233–53. I find it significant that the defenders of the concept of the soul which Ahnert discusses are minor thinkers (in the judgement of history, or at least of historiography) whose concerns are clearly overtly religious, and who are not concerned with natural philosophy. For indications of the long history of discussions of the soul in natural philosophy before this time, see Hatfield, 'Remaking the Science of Mind', and Michael, 'Renaissance Theories of Body, Soul, and Mind'. For a study of the relationship between soul and mind, and the eventual dominance of the idea of the mind, see, Ben Lazare Mijuskovic, *The Achilles of Rationalist Arguments. The Simplicity, Unity, and Identity of Thought and Soul from the Cambridge Platonists to Kant: A Study in the History of an Argument* (The Hague, 1974).

21 See, Michael, 'Renaissance Theories of Body, Soul, and Mind'; and the three articles on 'Psychology' in Section IX of C.B. Schmitt and Q. Skinner (eds), *The Cambridge History of Renaissance Philosophy* (Cambridge, 1988), pp. 453–534; and the five articles on 'Spirit' in Section V of Daniel Garber and Michael Ayers (eds), *The Cambridge History of Seventeenth-Century Philosophy* (Cambridge, 1998), pp. 759–949.

22 See, for example, Aram Vartanian, *La Mettrie's 'L'Homme machine': A Study in the Origins of an Idea* (Princeton, NJ, 1960); A. Vartanian, 'Trembley's Polyp: La Mettrie and Eighteenth-Century French Materialism', *Journal of the History of Ideas* 11 (1950): 259–86; and Pierre Naville, *D'Holbach et la philosophie scientifique au XVIIIe siècle* (Paris, 1967). A similar decline in the seriousness with which traditional theological concepts, including the soul, were taken in eighteenth-century Britain can be seen in John Redwood, *Reason, Ridicule, and Religion: The Age of Enlightenment in England, 1660–1750* (Cambridge, MA, 1976); and in Michael Hunter, 'Science and Heterodoxy: An Early Modern Problem Reconsidered', in D.C. Lindberg and R.S. Westman (eds), *Reappraisals of the Scientific Revolution* (Cambridge, 1990), pp. 437–60.

materialist historian writing today (if there is such a beast) could in all conscience call the Enlightenment the age of the re-assertion of the immortal soul.²³

It would be wrong to conclude, however, that the forces of religion simply gave up the ghost, and that the Enlightenment really was a period of atheism and irreligion. Religious belief still dominated the minds of many of the leading thinkers throughout the period, and continued in broad terms to shape their philosophical views, but these devout thinkers evidently chose not to assert their religious beliefs by defending the traditional idea of the immaterial soul, at least not in any detailed way. The origins of modern psychology focused on the mind and its relationship to the brain, while the notion of the soul, lingering vaguely in the background, was barely discussed. Perhaps we should see it as a conspiracy of silence, a recognition that, in the increasingly secular and irreligious age of the Enlightenment, it was better not to draw attention to the concept of the soul, which could all too easily be dismissed by those dangerous philosophers of 'little learning' highlighted by Alexander Pope, not only as philosophically untenable, but also as an unnecessary hypothesis in a post-Newtonian world.²⁴

We can see this, I think, in the opening remarks of Thomas Reid in his *Essays on the Intellectual Powers of Man* (1785). Right at the outset Reid mentions the distinction between body and mind, and the 'two general heads' of human knowledge, material and intellectual. 'These are the two great kingdoms of nature that fall within our notice; and about one or the other ... every art, every science, and every human thought is employed; nor can the boldest flights of imagination carry us beyond their limits.' 'Of other natures,' Reid adds, 'if any other there be, we have no knowledge, no conception at all.' The concept of soul is never mentioned, not even when he points out 'the vast interval between body and mind'. 'Whether there be any intermediate nature that connects them together, we know not.'²⁵ Similarly, at the opening of his *Elements of the Philosophy of the Human Mind* (1792), Dugald Stewart devotes a paragraph to expounding the fact that '[t]he consideration of the nature of Substance [has been] abandoned by modern Natural Philosophers.' Embracing empiricism, Stewart says that just as natural philosophers leave discussion on the nature of material substance to metaphysicians, it is equally futile to discuss the substance of the mind.²⁶ It would seem that Graham Richards was right in seeing the 'elimination

23 Certainly not from the point of view of natural philosophy, anyway, notwithstanding Ahnert, 'The Soul, Natural Religion and Moral Philosophy in the Scottish Enlightenment'. See, Brown, Murphy and Malony (eds), *Whatever Happened to the Soul?*

24 Alexander Pope, *Essay on Criticism*, I, 215. On the atheist as, at best, a shallow and unlearned thinker see, for example, Michael Hunter, 'Science and Heterodoxy: An Early Modern Problem Reconsidered'; but see also Redwood, *Reason, Ridicule and Religion*.

25 Thomas Reid, *Essays on the Intellectual Powers of Man* (Edinburgh and London, 1785), Preface, pp. 1–2.

26 Dugald Stewart, *Elements of the Philosophy of the Human Mind*, 3 vols (London and Edinburgh, 1792–1827), vol. 3, p. 4. It was assumed in Scholastic philosophy that there were two kinds of substance: material and immaterial. Stewart's dismissal of any consideration of the nature of substance is therefore a clear rejection of the nature of the immaterial soul from natural philosophy.

of the immortal soul as a topic of serious philosophical discussion' in eighteenth-century Britain.²⁷

It seems abundantly clear, then, that the mind took over from the soul in natural philosophical debate, and in the newly emerging discipline of modern philosophy, where the nature of the mind was regarded as a major aspect of the province of metaphysics. The major influence here, of course, was John Locke's *Essay Concerning Human Understanding* (1690), which has been seen as the beginning of modern philosophy, as well as the first major work to combine epistemology with attempts to understand the ways our minds work. For the most part, Locke only mentioned the soul in the *Essay* in order to indicate the difficulties inherent in the concept. What's more, it seems clear that a significant part of the problem for Locke and, by implication, his contemporaries was the unintelligibility of the concept. We can see this, for example, when he writes:

If it be said by anyone that it [the soul] cannot change place because it hath none, for spirits are not in *loco* but *ubi*, I suppose that way of talking will not now be of much weight to many in an age that is not much disposed to admire or suffer themselves to be deceived by such unintelligible ways of speaking.²⁸

Instead, Locke chose to talk of the mind and its ideas, phenomena the existence of which we could be sure by direct experience. But, if the soul was excluded from serious philosophical discussion, it meant that, for devout lay thinkers at least, the mind would now have to provide the kind of support for the truth of religion and for belief in the existence of God that the soul used to provide.

In Enlightenment Scotland the mind was indeed made to take over these religious duties from the soul. It was made to do so, however, not simply by being presented as a new immaterial, or spiritual, principle in the body. In other words we are not simply dealing with a change of name: what used to be called the soul, now being called the mind. Clearly, the popular scepticism about the reality of a disembodied soul, which seems to have militated against a public defence of the soul by all but the most traditional religious thinkers, would simply have been turned against any claims about the immaterial nature of the mind.²⁹ In the wake of the protracted debates about the possibility of thinking matter, following upon Locke's insistence that there was nothing contradictory about this concept, the concept of a material mind was in every atheist's repertoire. For the devout philosopher of the mind there was no point prolonging this debate. Accordingly, in order to show how the undeniable existence

²⁷ Richards, *Mental Machinery*, p. 135.

²⁸ Locke, *Essay Concerning Human Understanding* (London, 1690), Bk II, Ch. XXIII, § 21.

²⁹ Ahnert, 'The Soul... in the Scottish Enlightenment' discusses some of these traditional, religiously conservative, thinkers. The concept of soul was not defended publicly, however, by more advanced thinkers who were abreast of developments in post-Cartesian Continental philosophy, or post-Lockean philosophy in Britain.

of our minds proved the existence of God, religious philosophers had to come up with another stratagem.³⁰

The stratagem which they deployed has not been noticed, as far as I know, in the histories of the modern origins of psychology, and yet it seems to me that not only did it serve to show, as far as its proponents were concerned at least, the divinely created nature of the mind, but it also simultaneously demonstrated the scientific nature of this new psychology. It is perfectly possible that what I outline here is much more extensive, and can be seen in other thinkers, but I have discerned it by looking at philosophers in the so-called Common Sense school of philosophy in Scotland, and also by considering George Combe, the highly influential representative of phrenology in nineteenth-century Britain. Although Combe was not consciously a follower of Reid, Stewart or others in the Common Sense school he certainly knew their works well, and it is easy to agree with Graham Richards that the Common Sense school provided what he calls 'the intellectual soil in which phrenology was later to flourish'.³¹ In particular, I want to suggest that with respect to establishing the divine nature of the mind, Combe's way of thinking about the workings of the mind can be seen to be the culmination of a tradition initiated by Reid and his friends. In both the Common Sense school, and in Combe's brand of phrenology, we can see the same emphasis upon a particular aspect of post-Cartesian natural theology as a substitute for talk of the soul.³²

A significant factor constituting the so-called Scottish Enlightenment was the fact that the centre of gravity of philosophical and proto-psychological thought in Britain shifted to Edinburgh, Glasgow and Aberdeen during the eighteenth-century and remained there. This seems to be beyond controversy, and so perhaps we may be permitted here simply to repeat Richards's comment that 'The cultural factors behind this cannot be pursued here.'³³ Similarly, for our purposes, I am simply going to endorse Gary Hatfield's account that in the Scottish universities the mind became part of the revised curriculum in logic, metaphysics and moral philosophy; and that, by the middle of the century, 'a peculiarly Scottish phenomenon had occurred'. Namely, the study of the mind became the special preserve of moral philosophy; as can be seen from the fact that Reid, professor of moral philosophy at Glasgow, transformed moral philosophy into the study of what he called the 'powers' of the

30 See, John W. Yolton, *Thinking Matter: Materialism in Eighteenth-Century Britain* (Oxford, 1983).

31 Richards, *Mental Machinery*, p. 171. The idea of laws of mental phenomena, as well as physical, was also discussed by David Hume, of course, but I do not include him in my discussion because he does not use this to establish a natural theology based on the mind. See, Broadie, 'Human Mind and Its Powers', pp. 62–6.

32 On Combe see Roger Cooter, *The Cultural Meaning of Popular Science: Phrenology and the Organization of Consent in Nineteenth-Century Britain* (Cambridge, 1984); John van Wyhe, *Phrenology and the Origins of Victorian Scientific Naturalism* (Aldershot, 2004); and J. van Wyhe, 'Was Phrenology a Reform Science? Towards a New Generalization for Phrenology', *History of Science* 42 (2004): 313–31.

33 Richards, *Mental Machinery*, p. 142.

mind; while in Edinburgh there was a chair of ‘moral philosophy and pneumatics’.³⁴ Furthermore, although there was a controversy in 1836 as to whether George Combe was a suitable candidate for the Chair of Logic in Edinburgh, none of this hinged upon his abilities as a logician; he was regarded as a legitimate candidate by virtue of the fact that he was a writer on morals.³⁵

The members of the Scottish school are chiefly renowned for developing a psychology of mental faculties. Reid, Dugald Stewart and Sir William Hamilton, tried to categorise and classify the different faculties or powers of the mind which could be discerned by reflecting upon our own mental lives. There was much talk of Baconian efforts to gather the necessary data for the next stage of philosophical development, the Newtonian phase, of discovering the laws which determined how our minds work. The enterprise was similar, therefore, to that being pursued by the associationist school of mental phenomena, starting with Locke, but most famously adopted by David Hume and David Hartley.³⁶

The proper Method of Philosophising seems to be, [Hartley wrote] to discover and establish general Laws of Action, affecting the Subject under Consideration, from certain select, well-defined and well-attested Phaenomena, and then to explain and predict the other Phaenomena by these Laws. This is the Method of Analysis and Synthesis recommended and followed by Sir Isaac Newton.

From the point of view of the associationist perspective this meant analysing complex feelings and emotions into the original mental events from which they were composed. For Hartley, for example,

It is of the utmost consequence to Morality and Religion that the Affections and Passions (feeling and emotion) should be analysed into their simple compounding Parts, by reversing the steps of the Associations which concur to form them. For thus we may learn how to cherish and improve Good Ones, check and root out such as are Mischievous and Immoral, and how to suit our Manner of Life, in some tolerable measure, to our Intellectual and Religious Wants.³⁷

Although the Common Sense school took their lead from Locke, they did not confine themselves to the association of ideas, which they saw as only one aspect of thinking, and a largely passive one at that – responding to an incipient idea. They sought to

34 Hatfield, ‘Remaking the Science of the Mind’, p. 207. For further discussion of this ‘peculiarly Scottish phenomenon’, consider Ahnert, ‘The Soul... in the Scottish Enlightenment’; Broadie, ‘The Human Mind and Its Powers’; and A. Broadie, ‘Reid in Context’, in Terence Cuneo and René van Woudenberg (eds), *Cambridge Companion to Thomas Reid* (Cambridge, 2004), pp. 31–52.

35 See Van Wyhe, *Phrenology and the Origins of Victorian Scientific Naturalism*, pp. 85–92; and Thomas F. Gieryn, *Cultural Boundaries of Science: Credibility on the Line* (Chicago, IL, 1998), pp. 115–82.

36 Richards, *Mental Machinery*, p. 134–65; Alexander Broadie, ‘The Association of Ideas: Thomas Reid’s Context’, *Reid Studies* 5 (2002): 31–53.

37 David Hartley, *Observations on Man, His Frame, His Duty, and His Expectations*, 2 vols (London, 1749), vol. 1, p. 6; and p. 81.

explain the mind in terms of its own *active* powers, each of which they categorised as a particular faculty: self-preservation, maintenance of habits, lust, self-esteem, gratitude, duty, concern for the public good, and so forth. The lists varied quite a bit, of course.³⁸

It was the Newtonian part of the enterprise which was important for the religious aims of the Common Sense school. If the mind could be shown to work according to laws of nature, no less than bodies did, then all the natural-theological arguments which had been marshalled to show God's place in nature could be derived from the mind just as they had been derived from bodies.³⁹

In the Preface to his *Intellectual Powers of Man*, Reid acknowledged the errors and absurdities prevalent in the current understanding of the mind, but he had great expectations:

About two hundred years ago, the opinions of men in natural philosophy were as various and contradictory as they are now concerning the powers of the mind. Galileo, Torricelli, Kepler, Bacon, and Newton, had the same discouragement in their attempts to throw light upon the material system, as we have with regard to the intellectual ... We ought never to despair of human genius, but rather to hope, that, in time, it may produce a system of the powers of the operations of the human mind, no less certain than those of optics or astronomy.⁴⁰

In order to make clear the importance of this enterprise he used a long quotation from Edmund Burke's *Origin of Our Ideas of the Sublime and Beautiful* (1757):

The more accurately we search into the human mind, the stronger traces we everywhere find of His wisdom who made it. If a discourse on the use of the parts of the body may be considered as a hymn to the Creator; the use of the passions, which are the organs of the mind, cannot be barren of praise to Him, nor unproductive to ourselves of that noble and uncommon union of science and admiration, which a contemplation of the works of Infinite Wisdom alone can afford to a rational mind ... [W]e may be admitted, if I may dare to say so, into the counsels of the Almighty, by a consideration of his works. This elevation of the mind ought to be the principal end of all our studies, which if they do not in some measure effect, they are of very little service to us.⁴¹

38 Richards, *Mental Machinery*, pp. 164–74; Hatfield, 'Remaking the Science of the Mind', pp. 207–9; Broadie, 'Human Mind and Its Powers', pp. 70–6; and Klein, *History of Scientific Psychology*, pp. 638–46.

39 For a foreshadowing of this approach in Locke, see *Essay*, Bk II, Ch. XXIII, § 28. On the importance of laws of nature in the development of natural theology, see Francis Oakley, 'Christian Theology and the Newtonian Science: The Rise of the Concept of the Laws of Nature', *Church History* 30 (1961): 433–57; Henry, 'Metaphysics and the Origins of Modern Science'; and Amos Funkenstein, *Theology and the Scientific Imagination: From the Middle Ages to the Seventeenth Century* (Princeton, NJ, 1986), pp. 117–201. For a current philosophical perspective on this issue, see John Foster, *The Divine Lawmaker: Lectures on Induction, Laws of Nature, and the Existence of God* (Oxford, 2004).

40 Thomas Reid, *Essays on the Intellectual Powers of Man*, Preface, pp. 4–5.

41 Reid, *Essays on the Intellectual Powers of Man*, Preface, p. 7, quoting Edmund Burke, *Origin of Our Ideas of the Sublime and Beautiful* (London, 1757), Part I, chapter XIX.

Burke's words bring Reid's preface to a close. There could hardly be a plainer statement of Reid's aims in the book that follows. Studying the nature of the mind in this way would be of no service to us, he uses Burke's authority to say, unless it proves the existence of God.

Similarly, in his *Essays on the Powers of the Human Mind* (1803), Reid spends some time pointing out that although 'the grandest discovery ever made in natural philosophy, was that of the law of gravitation', Newton 'discovered no real cause, but only the law or rule, according to which the unknown cause operates'.⁴² The laws of nature, accordingly, are the rules according to which effects are produced, 'but there must be a cause which operates according to these rules.' Natural philosophers, Reid points out, have discovered many of the laws, 'but they have never discovered the efficient cause of any one phenomenon'. There must be 'an agent endowed with active power', Reid writes, 'but the agent is behind the scene.'⁴³ The real significance of this discussion emerges later when Reid talks of the laws governing the powers of the mind: 'Upon the whole, human power, in its existence, in its extent, in its exertions, is entirely dependent upon God, and upon the laws of nature which he has established.'⁴⁴ The powers of the mind, then, testify to the existence of God by virtue of their law-like regularity. As the reviewer of Paley's *Natural Theology* for the *Edinburgh Review* wrote in 1803, 'A law presupposes an agent, for it is only the mode according to which an agent proceeds; and mechanism can produce nothing, unless their [*sic*] be a power to whose operations it is subservient.'⁴⁵

Dugald Stewart began his own *Elements of the Philosophy of the Human Mind* (1792) by acknowledging that 'Reid saw clearly the distinction between an enquiry into the nature of Mind and into the laws of its phenomena.'⁴⁶ Stewart also pointed to the importance of the laws in making plain the existence of God:

After we have established, for example, from the astronomical phenomena, the universality of the law of gravitation, it may still be asked, whether this law implies the constant agency of mind; and ... whether it be probable that the Deity always operates immediately, or by means of subordinate instruments? But these questions do not fall under the province of the natural philosopher. It is sufficient for his purpose, if the universality of the fact be admitted.

42 Thomas Reid, *Essays on the Powers of the Human Mind*, 3 vols (Edinburgh, 1803), vol. 3, p. 58. See also, Reid, *Essays on the Intellectual Powers of Man*, chapter 3, pp. 51–2. Reid is referring, of course, to Newton's famous response to Leibniz's complaint that he had not provided a mechanical explanation for gravity in his *Principia mathematica*. Leibniz's comment elicited Newton's famous riposte in the second edition: 'hypotheses non fingo'. Isaac Newton, *The Principia*, trans. I.B. Cohen and A. Whitman (Berkeley, CA, 1999), p. 943. On this aspect of Newton's methodology see Alan E. Shapiro, 'Newton's "Experimental Philosophy"', *Early Science and Medicine* 9 (2004): 185–217.

43 Reid, *Essays on the Powers of the Human Mind*, chapter 3, p. 59.

44 Reid, *Essays on the Powers of the Human Mind*, chapter 3, p. 71.

45 *Edinburgh Review* 2 (1803): 300. William Paley, *Natural Theology, or, Evidences of the Existence and Attributes of the Deity: Collected from the Appearances of Nature* (London, 1802). See also works cited in note 39 above.

46 Dugald Stewart, *Elements of the Philosophy of the Human Mind*, 3 vols (London and Edinburgh, 1792), vol. 3, p. 4.

The case is exactly the same in the philosophy of mind. When we have once ascertained a general fact, such as, the various laws which regulate the association of ideas, or the dependence of memory on the effort of the mind which we call, Attention; it is all we ought to aim at in this branch of science.⁴⁷

If the universality of the mental fact, or law, is established, then, by implication from the case of gravity, we can assume the Deity must have established it, and we need go no further.

The same emphasis upon Newtonian-style laws in the study of the mind, in order to make a natural theological argument about the existence of God, can also be seen in George Combe's astonishingly influential *Constitution of Man* (1828), which has been described as 'the conversion of phrenological thought into a fully fledged popular moral philosophical system', and which James A. Secord has called 'a new bible for natural law'.⁴⁸ Although Combe claimed that his ideas came entirely from Franz Joseph Gall, the founder of phrenology, it is perfectly clear that there is a great deal of Scottish faculty psychology in his philosophy. Indeed, as Graham Richards has pointed out, there are 'remarkably close affinities' between Gall's own list of mental faculties and those identified by Reid and Stewart. As Richards concludes: 'There can be little doubt that the prior presence, and wide popularity, of the Reidian faculty analysis in Scotland prepared the ground for a favourable reception of phrenological thought following Spurzheim's first British tour in 1814.'⁴⁹

Being a writer who wanted to reach a wide audience, even an audience of literate artisans, Combe spelled out the theological importance of the concept of laws of the mind much more clearly than did the Common Sense school of philosophers. Furthermore, he even pulled theses and arguments out of the *Constitution of Man* and expanded upon them in a separate work, *On the Relation between Science and Religion*.⁵⁰

Beginning autobiographically, Combe tells us of his early rejection of the claim that God governs the world because of the all too obvious sufferings of the innocent and successes of the undeserving, and other injustices of life. He began to see the light, however, when he read the natural theological literature. Works such as 'Ray on the Wisdom of God in Creation', and 'Paley's Natural Theology'.⁵¹ Consequently,

47 Stewart, *Elements of the Philosophy of the Human Mind*, vol. 1, pp. 10–11. Similar ideas are to be found in Sir William Hamilton, *Lectures on Metaphysics* (Edinburgh, 1859).

48 George Combe, *The Constitution of Man, Considered in Relation to External Objects* (Edinburgh, 1828). James A. Secord, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of 'Vestiges of the Natural History of Creation'* (Chicago, IL, 2000), p. 73. On Combe and laws of nature see Van Wyhe, *Origins of Victorian Scientific Naturalism*, pp. 120–4.

49 Richards, *Mental Machinery*, p. 263.

50 George Combe, *On the Relations between Science and Religion* (Edinburgh, 1847), although the earliest edition I can find, this is described as the 3rd edition. The book was expanded in successive editions. In what follows I have used the 5th edition of 1872.

51 John Ray, *The Wisdom of God Manifested in the Works of the Creation* (London, 1692); Paley, *Natural Theology* (see note 43 above). On Ray, see Charles E. Raven, *John Ray, Naturalist: His Life and Works* (Cambridge, 1942); on Paley see, D.L. LeMahieu, *The Mind of William Paley: A Philosopher and His Age* (Lincoln, NE, 1976).

Combe reached man's estate, he tells us, 'with a firm faith that God governs the world, but utterly baffled in all my attempts to discover how this government is effected'. What is more, although he could see God's governance when he studied astronomy, or anatomy and physiology, and chemistry, as soon as he 'returned into the world of business, these delicious visions fled, and I could no longer trace the Divine government in the affairs of men'.⁵²

It is worth hearing the next part of the story in full:

In this condition of mind I continued for several years, and recollect meeting with only two works which approached to the solution of any portion of the enigma which puzzled my understanding. These were 'Smith's Wealth of Nations,' and 'Malthus on Population.' The first appeared to demonstrate that God actually governs in the relations of commerce; that he has established certain natural laws which regulate the interests of men in the exchange of commodities and labour ... [Malthus] appeared to me to prove that God reigns, through the medium of fixed natural laws, in another department of human affairs – namely in that of population. The facts adduced by him showed that the Creator has bestowed upon mankind a power of increasing their numbers ... and, consequently, that they must limit their increase by moral restraint, or augment, by ever-extending cultivation of the soil, their means of subsistence...⁵³

Here then, we can see Combe realising that some of God's laws are designed to enforce us to be moral beings.

Having got this far on his own, Combe then discovered the work of Dr Gall and came to believe that 'the organ of the mental faculties' was 'the chief instrument [of God] by means of which the government of the moral world is conducted'.⁵⁴ This is of course a *reconstructed* biographical account of how Combe came to be a phrenologist, but the fact that he chose to present his intellectual development this way surely testifies to the importance he placed upon the natural theological use of his system.⁵⁵

Combe was well aware of the difference between the laws of nature, properly so-called, and the natural laws of morality that seemed to be implied by them:

Every object and being in nature has received a definite constitution and also specific powers of acting on other objects and beings. The action of each force in the same

52 Combe, *On the Relations between Science and Religion*, pp. 6, 8.

53 Combe, *On the Relations between Science and Religion*, p. 8. He refers to Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (London, 1776); and Thomas Malthus, *Essay on the Principle of Population, as It Affects the Future Improvement of Society* (London, 1798). He was by no means the only thinker to be influenced by these two works. For discussions of this background see, Robert M. Young, 'Malthus and the Evolutionists: The Common Context of Biological and Social Theory', in his *Darwin's Metaphor*, pp. 23–55; and Dov Ospovat, *The Development of Darwin's Theory: Natural History, Natural Theology, and Natural Selection, 1838–1859* (Cambridge, 1981).

54 Combe, *On the Relations between Science and Religion*, p. 18.

55 Opinions are divided as to the sincerity of Combe's religious pronouncements, some seeing them as nothing more than expedient interpolations. We do not have to enter the discussion here – even if they are mere expediences, it indicates that he felt these were arguments that would appeal to the majority of his readers.

circumstances is so regular that we describe the force as operating under laws imposed on it by God; but these words indicate merely our perception of the regularity of the action. By observing this regularity, however, man is led to draw rules from it for the regulation of his conduct, and these rules are also called 'natural laws,' because it is through nature that God reveals and prescribes them to the human mind.⁵⁶

Combe urges his readers to always bear in mind this double signification of the phrase 'natural law'.⁵⁷ He even calls upon the authority of the Reverend Mr Adam Sedgwick's *Discourse on the Studies of the University* [of Cambridge] to the same effect:

We are justified in saying [Sedgwick wrote] that, in the moral as in the physical world, God seems to govern by general laws ... I am not now contending for the doctrine of moral necessity; but I do affirm, that the moral government of God is by general laws, and that it is our bounden duty to study those laws, and, as far as we can, to turn them to our account.⁵⁸

Sedgwick sums up the creed of the modern man of science, Combe tells us, when he says that, '[i]f there be a superintending Providence, and if His will be manifested by general laws, operating both on the physical and moral world, then must a violation of these laws be a violation of his will, and be pregnant with inevitable misery'.⁵⁹ Combe leaves the reader in little doubt as to the religious importance of the moral philosophy which he believes is implied by the mental laws discovered by phrenology. Indeed, he criticises the major Churches for failing to preach the gospel of laws of nature:

If ... such laws exist as science proclaims, they must be of Divine institution, and worthy of all reverence; and I ask, in the standards of what Church, from the pulpits of what sect, and in the schools of what denomination of Christians, are these laws taught to either the young or old as religious truths of Divine authority, and as practical guides for conduct in this world's affairs? ... [I]f these laws are not studied, honoured, and obeyed as God's laws, are we not actually a nation without a religion in harmony with the true order of Providence, and therefore without a religion adapted to practical purposes?⁶⁰

56 Combe, *On the Relations between Science and Religion*, pp. 22–3. Gary Hatfield has pointed out that this distinction between physical laws and moral laws that seem to follow from them, was already made by Reid and others in the Scottish Common Sense school. See, Hatfield, 'Remaking the Science of Mind', p. 217.

57 Indeed, Combe distinguished between three kinds of natural laws: physical, organic and moral (or intellectual). We do not have to pursue the details here, but for an account see Van Wyhe, *Phrenology and the Origins of Victorian Scientific Naturalism*, pp. 121–4.

58 Combe, *On the Relations between Science and Religion*, p. 29. He refers to the third edition of Adam Sedgwick, *Discourse on the Studies of the University* (Cambridge, 1834, originally published 1833), giving a reference to p. 9, but in fact his quote is a composite from pp. 5 and 9.

59 Combe, *On the Relations between Science and Religion*, p. 30; Combe does not provide a reference to Sedgwick's *Discourse*, and I couldn't find these precise words. It is certainly a fair paraphrase of Sedgwick's opinions, however.

60 Combe, *On the Relations between Science and Religion*, pp. 30–1.

If Combe wanted to win friends and influence people – that is, important people – he had gone too far. It is easy to see, however, that his arguments are merely logical extensions of the arguments developed by Thomas Reid, Dugald Stewart and others in the Common Sense school of faculty psychology. On the face of it, we might have expected orthodox and essentially conservative thinkers like Reid and Stewart to defend the idea of the immortal soul. We have seen that they did not. On the one hand, they recognised that the concept of the soul was too philosophically precarious, and too much out of favour with most thinkers, to make its defence worthwhile. As Locke had suggested, talk of the soul was not then ‘of much weight to many in an age that is not much disposed to admire or suffer themselves to be deceived by such unintelligible ways of speaking’.⁶¹ Charles Stewart-Robertson has suggested that Reid must have sensed ‘that the days of Pneumatology were numbered’, and indeed that he was one of the first to pull the bell rope sounding Pneumatology’s death knell.⁶² If he did so, I believe it was because he had learned much from John Locke and the subsequent generation of philosophers (including David Hume), and in particular he had learned that the defence of the existence of an immaterial soul was impossible without betraying the principles of empiricist philosophy.⁶³ But, if Reid did join in tolling the death knell of Pneumatology, he did so because he could see an alternative way to use the phenomena of the mind to prove the existence of God; an alternative approach which could be shown, at least to Reid’s satisfaction, to rest on sound Newtonian foundations. Reid and others in the Common Sense school saw how they could use their analysis of the nature of the mind and its operations to prove the existence of God, through the demonstration of laws of the mind. In an atmosphere where Newtonian natural philosophy, and Newtonian laws of nature, that is to say, laws of nature necessarily established and maintained by God, had had such notable recent successes, this seemed the obvious way to proceed. Certainly, it was an extension of natural theology which appealed to Reid and to Combe, and perhaps to many of their readers.

61 Locke, *Essay*, Bk II, Ch. XXIII, § 21.

62 Charles Stewart-Robinson, ‘Thomas Reid and Pneumatology: The Text of the Old, the Tradition of the New’, in Melvin Dalgarno and Eric Matthews (eds), *The Philosophy of Thomas Reid* (Dordrecht, 1989), pp. 389–411; see p. 403.

63 On the empiricist emphasis in Reid’s theory of the mind see, Broadie, ‘The Human Mind and Its Powers’.

Index

- Aa, Pieter van der 155
 Abreu, António Riberio de 46–7
 Achard, Claude-François 114
 d'Acquet, Hendrik 166
 Adam, Johann of Ickstatt 178
 Africa 154, 156
 Agrippa of Nettesheim 73
 d'Agreda, Maria 89
 Alacoque, Marguerite Maria 83
 Albinus, Bernard Siegfried 3, 35, 121, 122, 136–43
 Albrecht, Johann Peter 18
 d'Alembert, Jean le Rond 101, 203
 Alentejo 46
 Algave 46
 Alpini, Prospero 71
 Altona 24, 25, 26
 Álvares, Dr. António Teixeira 43
 Álvares, Maria 43
 Amabile, Luigi 64
 Amar, Josefa 62
 Amaral, Bento Paes de 46
 America 154, 166, 169
 Amsterdam 2, 8, 11, 126, 146, 147, 154, 155, 196, 210, 223, 232, 234
 Anabaptists 126
 anatomy, anatomists 35, 64, 84, 123, 136, 141, 143, 155, 205, 206, 211, 213, 220
 anatomical atlases 121–43
 Anglicans 234
 Annas, Julia 122
 apothecaries 65, 70, 102, 112, 145, 147, 234
 Arnold, Theodor 200
 d'Arena, Marchese 75
 Assissi, Francis of 96
 Aristotle 52, 246
 Arletius, Johann Caspar 202
 Arnaud, Roland 217
 Arnolfini, Lavinia 214
 Asia 147, 154, 166
 atheism/atheists *see also* Cunningham 1, 66, 101, 118, 190, 227, 228, 231
 atomism 73
 Aubrey, John 238
 Augustine, saint 114
 Avicenna 33
 Avignon 112, 113, 114, 116, 117
 d'Avila, Teresa 96
 Aylwin, Thomas 232
 Bacellar, António de Abreu 46–7
 Bacon, Francis 74, 78
 Balen, Petrus van 10, 16, 17, 24
 Baltus, Jean-François 200
 barbers, barber-surgeons 37, 67–70
 Barbosa, João Mendes Sachetti 33
 Barcelona
 School of Surgery 57
 Baron, Hyacinthe-Théodore 104, 106, 107, 116
 Baronius 95
 Bartholin, Caspar 205, 206, 209
 Bartholin, Rasmus 208
 Bartholin, Thomas 65, 206, 210
 Bartoli, Sebastiano 65
 Basle 205
 Baux, Pierre 108, 109, 110, 111, 112, 114, 117
 Bavaria 4, 173–93
 Bayerische Akademie der
 Wissenschaften (Bavarian
 Academy of the Sciences) 173,
 177, 185, 188, 191
 Bavarian Witch-War 177–8
 Collegium Medicum 188, 189, 192
 Baxter, Richard 240
 Bayle, Pierre 5, 8, 9, 10, 19, 104, 109, 110, 198, 199, 201
 Dictionnaire historique et critique
 (1697) 104, 105, 109, 110, 198
 Bekker, Balthasar 224
 Bemister, John 230
 Benedict XIV, Pope 3, 79–98
 Berckel, Abraham van 223
 Bergier, Nicolas 102, 105, 114
 Berlin 2, 12, 23, 24, 146, 150
 Academy of Sciences 203
 Bernard, saint 114

- Bernier, J. 77
 Bernino, Domenico 94
 Berrettini 122
 Bertrand, Elie 115
 Beverland, Hadrianus 7, 15
 Bible 28, 111, 114, 209, 214
 Genesis 219
 Bidloo, Govard 3, 121, 122, 123–36, 137, 139, 143
 Bidloo, Lambert 129
 Bingen, Hildegard von 72
 Blackburne, Richard 238
 Blanchiis, Apollonius de 92
 Boerhaave, Hermann 1, 21–2, 23, 26, 27, 35
 Bologna 3
 Accademia delle Scienze dell'Istituto
 Bolognese 79, 86
 School of Surgery 85
 University of 84
 Boniface VIII, Pope 84
 Bonnet, Charles 102
 Bontekoe, Cornelis 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 23, 24
 Borbón, Josefa Amar y 61
 Dissertation on Women's Physical and Moral education (1790) 61
 Bordeu, Théophile de 102
 Borromeo, Carlo 86, 96
 Bossuet, Bishop Jacques-Bénigne 4, 89, 98, 206, 211–12, 213, 217, 218–21
 botany 64, 108
 Bourges 102
 Bouwmeester, Johannes 223
 Boyle, Robert 27, 73, 74
 Brady, Robert 235
 Braght, Tieleman Jansz van 128–30
 Brandão, Diego Nunes 43
 Brandenburg, *see also* Prussia 201
 Elector of 12
 Brandt, Enevold 26, 28
 Brazil 147, 148, 156, 170
 Breman, John 232
 Breslau 202
 Breynius, Jacobus 154
 Breynius, Johannes Philippus 154
 Bristol 233
 Britain 118
 Brooke, Humphrey 226
 Browne, Sir Thomas 1
 Bruno, Giordano 69
 Buchwald, Johannes de 216, 218
 Buffon 115
 Burette, M. 107
 Burke, Edmund 253–4
 Cabanis, Jean-George 101
 Cádiz
 School of Surgery 57
 Caen 213
 Calas, 112
 Calmet, Dom 114
 Calvet, Esprit-Claude-François 112–19
 Calvinism/Calvinists 3, 108–18, 121, 137, 138, 139, 169
 Campanella, Tommaso 68, 69
 Cangiamilia, Francesco 53–55, 57
 Embriologia Sacra (1745) 54
 Cantelmo, Andrea 74
 Capua, Leonardo Di 65, 72, 73, 74, 76
 Capuchins 90
 Caraccioli, Luigi 82, 88
 Caribbean 161
 Carrillo, Jesús 169
 Carlo Emanuele III, King of Savoy 66
 Carlos IV, King of Spain 57
 Caroline Matilda, Queen of Denmark 26
 Carosi, doctor 92
 Cartesianism 5, 6, 7, 8, 12, 13, 14, 16, 23, 65, 109, 210
 Castelli, Pietro 71
 Catholicism/Catholics 2, 24, 29–48, 49, 62, 79–99, 105, 108–18, 166, 170, 173, 174, 178, 179, 182, 184, 189, 191, 200, 201, 206, 207, 211, 212, 213, 214, 215, 217, 218, 220, 221
 Catt, Heinrich Alexandre de 201
 Caylus, comte de 118
 Celsus 69
 Chamberlen, Hugh 233
 Chamberlen, Peter 233
 charlatans 42
 Charles II, King of England 228, 231, 235
 Charles III, King of Naples and Sicily and later Spain 54
 Charles VII, Emperor 187, 192
 Charles Albrecht, Duke of Bavaria later emperor Charles VII 187
 Chaudon, Louis-Mayeul 114
 Chauliac, Guy de 69
 Chauncy, Ichabod 233
 chemistry 64, 73
 Cheseldon, 105

- Chichester 232
 Christ 7, 89, 126, 127, 130, 139, 143, 183, 184, 219
 Christian VII, King of Denmark 26
 Christina, Queen of Sweden 74
Christus medicus 91
 Cirillo, Nicola 63, 65, 76
 Clarke, Samuel 109, 111
 Clemens XI, Pope 92
 Clemens XII, Pope 92
 Clemens XIV, Pope 192
 Clément, Jules 49
 Clusius, Carolus 159, 163
 cocceianism 13
 Coimbra 31, 32, 36, 42, 43, 46
 Medical Faculty 31, 33–6
 University of 31, 32, 33–6, 40, 47
 Coletta, Pietro 76
 Columbus 169
 Combe, George 251–2, 255–8
 Commelin, Caspar and Jan 151, 155
 Congregation of Rites 82, 86
 Congregationalists 240
conversos 34
 Copenhagen 24, 26, 28, 205, 208, 210, 216
 Royal anatomist 216
 University of 205, 206, 208, 216
 Copernicus, Nicolaus 197
 Copertino 90
 Copertino, Giuseppe da 79, 81, 82, 86, 88, 90–99
 Coppe, Abiezer 226
 Cordemoy, Louis Géraud de 217
 Cornelia, Tommaso 65
Corpus Christi 97, 214
 Cosimo III, Grand Duke of Tuscany 155
 Costa, Clara Maria da 42
 Counter-Reformation 118, 206, 212, 213, 215, 217, 220, 221
 Court physician 173–93
 Coutinho, Manuel de Pina 43
 Cowper, William 135
 Craanen, Theodorus 20
 Creation 124
 Creator, see God 126
 Crébillon, père 115
 Cristofaro, Giacinto De 64
 Cromwell, Oliver 232
 Cuffeler, Abraham Johannes 7, 8
 Cummings, Duncan 233
 Cunningham, see atheists
curandeiros, see popular healers
 Dale, Antonius van 195, 196–7, 198, 199, 224
 Dapper, Olfert 154, 170
 Darwin, Erasmus 115
 Denmark (Norway, Schleswig-Holstein) 27, 205–206, 208–10, 216–17
 Derham, William 109, 111
 Descartes, René 1, 2, 6, 14, 15, 19, 88, 111, 208, 210, 213, 215, 227, 245, 247
 Deism 207
 Demas 218
 Devil 176, 197, 223
 Devon 237
 Devotion of the Holy Heart 83, 84
 Diderot, Denis 5, 6, 22, 23, 101, 111, 112, 183
 Diemerbroeck, Isbrand van 227
 Diggers 225
 Dijon 211
 Dinouart, priest 54
 Disbrowe, Samuel 232
 dissections 35, 84, 213
 Dodoens, Rembert 163
 Dom João V, King of Portugal 38, 39, 40, 48
 Donzelli, Giuseppe 65
 Donzelli, Tommaso 70, 71, 73
 Drakenstein, Reede tot 151, 159, 161
 Dresden 188
 Du Coudray, Mme 60
 Durant, John 229
 Dutch East India Company (VOC) 147, 148, 166
 Dutch Republic, *see also* the Netherlands and United Provinces 122, 130, 138, 223
 Synod of Dordrecht 169
 Duverney, Joseph Guichard 211, 217
 East Indies 150, 169
 Edelmann, Johann Christian 24
 Edinburgh 251, 252
 Ellwangen 175, 177, 180
 Elzevier 151
 England 1, 34, 75, 142, 149, 183, 223–41
 Battle of Sedgemoor 232
 Civil War 236
 Exclusion Crisis 232
 Exclusion Parliament 230
 Judge Jeffreys' Bloody Assizes 233

- Restoration 226, 227, 228, 233, 235,
238, 239, 240
Rye House Plot 232, 235
Emden, Franciscus van den 224
Empiricus, Sextus 73
Erdt, Baroness Louise von 175, 180–1
Esquilache, Neapolitan minister 54
Ettmüller, Michael 76
Eugene, King of Savoy 66
Europe 166, 225, 239, 241
Eustachius 123
Évora 31, 36, 46
exotica 157
- Fabiano, Alcide 91, 92
Falconet, Camille 103–104, 107
familiar, (surgeons and physicians employed
by Portuguese Inquisition) 36, 37,
38, 39, 43, 45, 48
Feijoo, Benito Jerónimo 57–9, 62
*Erudite Letters: Most Decent use of the
Art of Obstetrics* (1745) 57, 59
Universal Critical Theatre (1726) 59
Fénelon, François de Salignac de la Mothe
89, 114, 115
Ferguson, Adam 245
Ferreira, Dr Gonçalves de 43
Ficino, Marsilio 89
Fielding, Robert 236
Figueiredo, António de 43
Florence 155, 214, 215
Accademia del Cimento 75
Annalena convent 214
Floridablanca, Count of 54
Fontenelle, Bernard Le Bovier de 4, 109,
124, 196, 197–8, 199, 200, 202
Fowler, Henry 236
France 1, 3, 5, 22, 23, 27, 34, 49, 75, 89,
101–19, 149, 199, 211, 212, 213,
214, 215
Académie française 197
Revolution 113, 117
Wars of Religion 212
Francesco, Pierpaolo 92
Franciscans 91
Franklin, Benjamin 19
Franz Stephan of Lorraine 187
Frederick II, King of Prussia 188
Frederick the Great, King of Prussia 23,
201, 202, 203
Freire, Manuel Martins 42
- Galen 33
Galenism 14, 23, 238
Galileo 70
Gall, Franz Joseph 255
Garve, Christian 202
Gassendi, Pierre 73
Gaßner, Johann Joseph 175–7, 179–82, 184,
191, 192, 193
Gaylard, Joseph 232
Gehema, Junusz Abraham 18
Gent, Petrus van 223
Geoffroy, Etienne-François 104, 107
Germany 2, 4, 18, 23, 24, 27, 77, 106,
173–93, 199, 200, 241
Gerson, David 25
Gerson, Hartog (Hitsch) 25, 26
Gesner, Conrad von 163
Geulincx, Arnold 8, 15
Giannone, Pietro 65–7, 76
Gilpin, Richard 229, 230, 231, 238, 239
ginseng 154
Glasgow 251
Glisson, Francis 237
Gloucester 236
God 9, 11, 14, 45, 77, 89, 90, 91, 93, 94, 95,
96, 138, 139, 142, 183, 191, 197,
208, 209, 214, 215, 216, 219, 223,
245, 250, 251, 253, 254, 255, 257
Goeze, Johann Melchior 26
Golden tooth 195–203
Göttingen 23
Goldsmith, Oliver 4, 146, 166
goldsmiths 196
Gosfricht, George 232
Gospel 184
Gottsched, Johann Christoph 199
Gracht, Jacob van der 135
Graindorge, André 213
Grotius, Hugo 27
Guénée, Antoine 105
Guenellon, Pieter 229
Guyon, Mme 89
- Haarlem 196, 229
Hague, The 2, 10, 11, 12, 13, 15, 16
Halle 25
Haller, Albrecht von 22, 23, 27, 136
Hamburg 2, 24, 26, 220
Hamilton, Sir William 245, 252
Hanover 26
Happel, Eberhard Werner 199

- Harderwijk 13,
 Harrington, James 225
 Hartley, David 252
 Harvey, William 35, 65, 99
 Heigel, Paul 195
 Helmont, Jan Baptist van 237
 Helmstedt 197
 Helvetius, Dr, see Schweitzer, Johann
 Friedrich
 Helvétius, Claude-Adrien 5, 106, 111
 herbals 159
 heresy 44
 Hermann, Paul 156
 Hesse 166
 Higham 226
 Hildesheim 18
 Hippocrates 33, 52, 69
 Hobbes, Thomas 6, 12, 104, 115, 223, 225,
 227, 231, 237, 238
 Hoffmann, 27
 d'Holbach, Paul-Henri-Dietrich, Baron 5,
 105, 106, 248
 Holberg, Ludvig 221
 Holland, *see also* the Netherlands 5, 10, 17,
 19, 22, 23, 27, 34, 147, 148, 155,
 159, 206, 210, 227, 228, 229, 231,
 237
 Holy Office, *see* Inquisition
 Horst, Jacob 199
 Houtteville, abbé 114
 Huet, Pierre-Daniel 213
 Huguenots 108, 110, 115, 117, 212
 Hume, David 79, 116, 182, 183, 248, 252,
 258
 Hutcheson, Francis 200

 iatrochemistry 9, 70
 India 156
 Ingollsetter, Johann 199
 Ingolstadt
 University of 188, 189, 193
 Innocent X, Pope 87
 Inquisition (Naples) 64, 68
 Inquisition (Portuguese) 29–48
 Ireland 234
 Italy 3, 5, 106

 Jacob, William 230–31
 Jamblichus 95
 James II, King of England 232, 235
 Jansenists 102, 105, 118, 212

 Japan 156
 Jaucourt, Louis de 101
 Jesuits 31, 35, 55–6, 96, 99, 102, 112, 115,
 117, 118, 189, 191, 192, 196, 207,
 211, 214
 Jesus 90, 181, 182
 Jews 24, 26, 43, 44
 João V, *see* Dom João V, King of Portugal
 Johan Maurits of Nassau Siegen 156
 Johnston, Nathaniel 235

 Kaempfer, Engelbert 147, 148, 156, 158,
 166, 170
 Kant, Immanuel 1
 Kempis, Thomas á 114
 Kiffin, William 232
 Klinkenberg, Jacob van Nuys 138
 Knipperdolling, Bernd 16, 126
 Koran, 109, 115
 Kortholt, Sebastian 10
 Kostka, Stanislaus 96
 Krechting, Bernd 126

 Labadists 150
 La Court, Pieter and Johann 19
 Laet, Johannes de 169
 Lairesse, Gérard de 135
 Lambertd, Maria 129
 Lamarck 115
 Lambertini, Prospero, *see* Benedict XIV
 Lambinus, Denis 116
 La Mettrie, Julien Offroy de 2, 5, 6, 9, 22–4,
 25, 28, 101, 103, 111, 183, 248
 'Lammists' 129
 Lancisi, Giovanni Maria 83
 Lau, Theodor Ludwig 24
 Lavater, Johann 176
 Leibniz, Gottfried Wilhelm 27, 79, 174, 211,
 215
 Leiden 2, 18, 21, 22, 23, 101, 146, 156, 228,
 229
 University 7, 9, 13, 18, 137, 211, 224,
 227, 228, 230, 231, 232, 233,
 239
 Lellis, Camillo de 88
 Leonello, Chiara 92
 Leprotti, Antonio 83
 Leuthner, Anton Joseph 175, 179, 180
 Levellers 226
 Leyden, Jan van 16, 126
 Libavius, Andreas 199

- libraries 101–19
 Lisbon 31, 36, 43
 Todos-os-Santos Royal Hospital 40, 42
 Livorno 214
 Locke, John 1, 5, 11, 27, 106, 111, 115, 229,
 230–31, 243, 250, 252, 258
 Lockier, Lionel 226
 London 2, 18, 26, 145, 146, 150
 Barber Surgeons' Hall 230
 British Museum 156
 College of Physicians 13, 226, 232
 Tower of 235
 Louis XIV, King of France 156, 211
 Louis XV, King of France 187
 Louis XVI, King of France 105
 Loyola, Ignazio de 96
 Lucae, Friedrich 199
 Lucretius 116
 Luis, Manuel 43
 Luke 218
 Luther, Martin 16
 Lutheranism/Lutherans 110, 206, 218, 219
 Luxembourg 187
 Lyons 112
- Machiavelli 12, 115
 Madrid 49, 57
 House of the Helpless 60
 Royal Surgery School 57
 Maffei, Francesco-Scipione 82, 110
 Magus, Simon the 95
 Maillet, Benoît de 111, 115
 Malfi, Tiberio 67, 68
 Malpighi, Marcello 83, 84
 Mandeville, Bernard 2, 12, 13, 17, 18, 19,
 20, 21, 23
 Mandeville, Dr Michael 12, 13, 17, 18
 Manlove, Timothy 231
 Manso, Marquis of 68
 Maria Theresa of Austria 187
 Marmontel, 115
 Marseilles 114
 Academy 114
 Mary, saint/virgin 91, 92, 96, 97, 117, 195
 mason 117
 Maupertuis, Louis Moreau de 111
 Mauriceau, François 53
 Maurits, Johan 147
 Maximilian III Joseph, Elector of Bavaria
 173, 177, 178–9, 185, 187
 mechanism 9, 12
- Medinaceli, Duke of 75
 Mennonites 121, 126–35
 Merian, Maria Sibylla 147, 148, 150, 151,
 152, 161, 166, 170
 Metz 212
 Meurs, Jacob van 154, 155
 Meyer, Lodewijk 9, 15, 224
 Midi 113
 midwives 2, 49–62, 217
 Mirabeau, marquis de 105
 Miracle healings 175
 miracles 195–203
 Modena 82
 Mogul Empire 154
 Molinos, Miguel 89
 Monardes, Nicolás Bautista 169
 Monforte, Antonio 64
 Monmouth, Duke of 232, 233
 Montaigne, Michel de 196
 Montealboddo, Michelangelo da 92
 Monteseuro, Antonio Arteta 55–7
 Montesquieu, Charles Louis de Secondat,
 Baron de 104, 105, 106, 108, 112,
 115
 Montpellier 101, 102, 108, 110
 Morand, Saveur-François 104, 105, 106,
 107
 Moses 94
 Münster 16, 126
 Munich 175–7, 180, 181, 185, 187, 188
 earthquake 185
 Muratori, Ludovico Antonio 82, 83, 98
 mysticism 89
- Naples 3, 63–78, 206
 Accademia delgi Investiganti 75
 Accademia degli Oziosi 68
 Accademia Palatina/Medinaceli 75, 76
 Ospedale degli Incurabili 68, 92
 University of 68
 natural history 110, 112, 115, 145–71
 Near East 154
 Nedham, Marchamont 226
 Neri, Filippo 89, 96
 Nero, Maria Flavia del 214
 Netherlands, *see also* United Provinces and
 Dutch Republic 4, 75, 146, 170,
 199, 207, 213, 217
 Reformed Church 11
 Newcastle 231
 New Christians 43, 45

- New Netherland 148
 Newton, Isaac 1, 5, 27, 89, 99, 104, 115
 New World 169
 Nicole, Pierre 105
 Niemann, Sebastian 195
 Nihell, Elizabeth 60
 Nijmegen 13
 Nîmes 108, 109, 112
 Nonconformists 232, 238, 239, 240, 241
 Nuti, Roberto 94
- Offray, Julien 101
 Ogilby, John 154
 Old Christians 39, 45, 46
 Oporto
 Royal Medical Academy of 33
 Orta, Garcia da 169
 Overcamp, Heydenryck 7, 8, 9, 17, 18, 21, 23, 24, 224
 Oviedo, Gonzalo Fernández 163
 Oxford 232, 236
 Merton College 232
- Paczensky, Georg Friedrich Wilhelm 202
 Paley, William 254
 Panduro, Lorenzo Hervás y 55–6
 Paracelsianism 70
 Paradise 93
 Paris 26, 101, 102, 104, 110, 112, 116, 146, 150, 182, 197, 205, 206, 212, 213, 214, 215, 217, 218, 219, 221
 Académie de Chirurgie 104
 Académie des sciences 185
 Académie royale des Inscription et Belles-lettres 107, 113
 Hôtel Dieu 219
 Jardin du Roi 211, 217
 Parlement 118
 Saint-Germain 211
 Saint-Sulpice 221
 Société royale de Médecine 113
 University of 106, 112
 Versailles 211
 Pascal, Blaise 104, 105, 114, 212, 220
 pathology 35
 Paul, Vincent de 212
 Paulli, Jacob Henrik 208
 Paulli, Simon 208
 Pazzi, Margaretha de 89
 Pelagians 114
 Pernety, A. J. 117
- Perriquet, Marie 212
 Peter the Great, 155
 Petiver, James 145, 146, 147, 156
 pharmacology/pharmacy 35, 65
 Philip V, King of Spain 49
 physicians 35, 36, 40, 41, 42, 43, 44, 46, 53, 64, 65, 69, 101, 102, 104, 108, 112, 117, 118, 146, 147, 154, 173, 179, 182, 186, 187, 189, 196, 200, 213, 224, 227, 228, 229, 230, 231, 232, 234, 236, 237
 Piquer, Andrés 54
 Piso, Willem 147, 148, 151
 Plato 69, 95
 Pluche, abbé 109
 Polignac, cardinal 116
 Pombal, Sebastião José de Cavalho e Mello 2, 33, 34, 35
 Reforms of 1772 33, 35
 Pomponazzi, Pietro 246, 248
 Pope, Alexander 105, 109, 115, 249
 popular healers 30, 32, 43, 45, 47–8
 Portugal 2, 29–48.
 Porzio, Luc'Antonio 65, 76
 Post, Frans 156
 Presbyterians 240
 Protestantism/Protestants 166, 170, 174, 195, 201, 207, 209, 211, 217, 224
 protophysiicians 54, 187
 Prussia 201, 202, 203
 Psychology 243–58
 Pufendorf, Samuel 27
 Puritans 230, 234
 Pythagoras 95
- Quietists 64
- Ranters 225, 226
 Ranzau, Count Schack Carl 26
 Ranzau, Elizabeth 212
 Ray, John 109, 111, 255
 Raynal, 112, 116
 Reformation 16, 77, 170, 174, 206
 Regensburg
 Bishop of 175, 176, 177
 Regius, Johannes 227
 Reid, Thomas 244–45, 249, 251, 252–3, 254, 255, 258
 Reims
 University of 187
 Remonstrants 24

- Renard, Louis 151, 153, 161
 Resurrection 183
 Rhazes 33
 Richardson, Edward 228, 229, 231
 Riggs, Edward 233
 Rijnsburg 16
 Rizzi, Catharina de' 88, 89, 96
 Rochefort, Charles de 153–4, 161
 Rodriguez, Antonio José 51–3, 57
 Rogers, John 227
 Romana, Francesca 72
 Rome 89, 96, 146
 St. Andrea al Quirinale 96
 Rosado, Luisa 60
 Rotterdam 13, 19
 Rouen 196, 197
 Rousseau, Jean-Jacques 25, 89, 105, 108, 111, 112, 115, 116, 202
 Rumbaum, Christoph 196
 Rumphius, Georg 150, 151, 158, 159, 161, 166, 170
 Ruysch, Frederick 123, 124, 126, 147, 155

 Saboya, Luisa Gabriela de, Queen of Spain 49
 Sadducism 231
 Sade, abbé de 118
 Saint-André, François de 200, 201
 St. Petersburg 155
saludadores, see popular healers 30
 Salzburg 195, 200
 Sampson, Henry 228, 229
 Sarmiento, Jacob de Castro 46
 Satan 16, 44
 Sauvages, François Boissier de 108, 110
 Savignani, Emilio 214
 Saxony 188
 Scarron 196
 scepticism 73, 102, 118, 197
 Schmidt, Johann Lorenz 24–5
 Schuller, Georg Hermann 223–4
 Schweitzer, Johann Friedrich (Swetzer), 13, 14
 Scotland 1, 4, 243–58
 Scripture, *see also* Bible 117
 Seba, Albertus 147, 151, 155, 158, 161, 166
 Sedan 206
 Sedgewick, Adam 257
 Séguier, Jean-François 110
 Seneca 196
 Sennert, Daniel 196, 201
 Seven Years War 188
 Severino, Marco Antonio 64, 69, 70, 72
 Sicily 54
 Siegemund, Custine 60
 Silesia 196, 197, 198, 199, 201, 203
 Simons, Menno 126, 127
 Siniscalchi, Liborio 99
 Sixtus V, Pope 86
 Sloane, Hans 154, 156
 smallpox 102
 Socinians 24
 Socrates 196
 Sorcerers/sorcery 42, 45
 South America 147, 156
 Southby, Strange 232
 Spain 2, 43, 49–62
 Spinoza, Benedict 2, 3, 5, 9, 10, 12, 13, 16, 19, 25, 27, 88, 223, 224, 225, 228, 231, 236, 237, 238
 Spinozism 6, 7, 8, 11, 14, 22, 24, 27, 237
 Sri Lanka 156
 Steno, Nicolaus 4, 205–16, 218–21
 Sterzinger, Don Ferdinand 175, 177–9, 181–82, 184
 Stewart, Dugald 245, 249, 251, 252, 254, 255, 258
 Stockholm 146
 Struensee, Adam 25
 Struensee, Johann Friedrich von 2, 9, 25–8
 Stubbe, Henry 238
 Surgery/surgeons 35, 36, 37, 40, 41, 42, 43, 44, 53, 64, 65, 69, 92, 102, 104, 189, 216, 217, 218, 232, 234
 Swammerdam, Jan 156
 Swieten, Gerard van 35
 Swift, Jonathan 109, 110
 Sydenham, Thomas 84, 230
 Sylvius, François dele Boë 20
 Sylvius, Johannes 210

 Tasso, Torquato 68
 Temple, Benjamin 232
 Tentzel, Wilhelm Ernst 199
 Thévenot, Melchisedec 211–12, 213
 Thevet, André 169
 Thirty Years War 166
 Thomism 246, 247
 Tobarra 54, 55
 Toland, John 105
 Toulouse 112
 Tozzi, Luca 65

- Tronchin, Théodore, 102, 103
 Turenne, Marshal 212
 Tuscany 214, 215

 United Provinces, *see also* Netherlands,
 Dutch Republic and Holland 4, 224,
 228, 231, 236, 237
 Urban VIII, Pope 86
 Utrecht 7, 9, 154, 227, 228
 University of 227, 228

 Valdes, Juan de 64
 Valetta, Giuseppe 76
 Vallière, duc de 103
 Veen, Dr Egbertus 11, 229
 Venice 70
 Verona 82, 110
 Vesalius, Andreas 69, 123
 Vesling, Johann 65
 Vico, Giambattista 3, 65–7, 76, 78
 Villarroel, Diego Torres 49
 Vilvain, Robert 237
 Volder, Buchardus de 18, 19
 Voltaire, François-Marie Arouet 4, 79, 89,
 102, 105, 106, 109, 110, 111, 112,
 114, 115, 116, 118, 201, 202
 Voorburg 16
 Vossius, Issac 114
 Vries, Gerardus de 9

 Wagner, Gabriel 6, 7, 15
 Walwyn, William 226
 Wandelaar, Jan 137
 War of Austrian Succession 187
Waterlanders 129
 Webster, John 237–8
 Wegner, Georg Wilhelm 201
 West Indies 232
 Willis, Thomas 19, 247
 Wilson, Isaac 233
 Winsløw, Jacob, 4, 205–207, 216–21
 Winsløw, Nicolaus Bruno 219
 witchcraft, 4, 30, 45, 237, 240
 witch-hunts 29, 177–8
 Wittenberg 196, 205
 Wolff, Christian 27, 174, 178
 Wollaston, William 111
 Wolter, Johann Anton von 173–93
 Woodward, John 115
 Worm, Ole 206, 217
 Worm, Ole, Jr. 217
 Württemberg, Duke of 176

 Xaverio, Francesco 96

 Yorkshire 228

 Zacchias, Paulo 87, 95
 Zurich 176