

Chapter One

Faithful Eyes

Harvey did not trust other mens writings, but his own faithfull eys, the truest reporters of Anatomy, because Anatomy is better gain'd by ocular inspection than by long reading.¹

Does your skilled hand make me bold?
It has!²

Every culture has its rules for behaviour including training in how to express or repress feelings in certain situations. This chapter seeks to understand part of the emotional community of early modern medical practitioners in England through an analysis of the attitudes of anatomists to the human body.³ What was the effect of anatomizing on the feelings of seventeenth-century medical men towards the bodies of the dead, the living and their own bodies? How did others in and out of the community of anatomists respond to the popularization of dissecting? How did they feel about anatomists and the claim that cutting on the dead led to more knowledgeable treatment of the living? A strong model in answering these questions is the most famous anatomist in Europe, the discoverer of the circulation of the blood, William Harvey.⁴

Harvey (1578–1657) came from a merchant family in London, attended Gonville and Caius College, Cambridge as an undergraduate and received his Medical Doctorate from the University of Padua in 1602. As a medical student at Padua, Harvey was exposed along with his peers to ideals for dealing with the pain of the living and the dismemberment of the dead in the hospital and the theatre of

1 *The Anatomical Exercises of Dr. William Harvey with the Preface of Zachariah Wood Physician of Rotterdam* [sic] (1653), London, The Preface, p. 11. This was the first English edition. Part of this chapter appeared in Payne, Lynda (December 2002), 'With much nausea, loathing, and foctor: William Harvey, dissection and dispassion in early modern medicine.' *Vesalius: Acta Internationales Historiae Medicinae*, 3 (2), pp. 45–52.

2 Keynes, Geoffrey (1966), *The Life of William Harvey*, Oxford: Clarendon Press, p. 111. This is part of a poem by Dr Peter Browne (1575–1624) in *Pseudo-medicorum anatomia* (1624). The pamphlet included Latin verses praising the President and Fellows of the College, including Browne's on Harvey.

3 See Rosenwein, B. (3 June 2002), 'Review Essay: Worrying about Emotions in History', *American History Review*, 107, pp. 821–45.

4 For Harvey's biographical details see Keele, Kenneth D. (1965), *William Harvey: The man, the physician, and the scientist*, London and Edinburgh: Thomas Nelson Printers Ltd., Keynes, Geoffrey (1966), *The Life of William Harvey*, Oxford: Clarendon Press, French, Roger (1994), *William Harvey's Natural Philosophy*, Cambridge: Cambridge University Press.

anatomy. He apparently became quite addicted to investigating the dead. Harvey would go on to carry out and witness many private dissections including those of his father and sister. In anatomical lectures to the College of Physicians he matter-of-factly included the ‘huge colon in father’ and ‘large spleen in my sister 5lb’ as case materials to illustrate certain anomalies.⁵ In 1602 Harvey set up practice in London. Two years later he became a primary physician to Saint Bartholomew’s Hospital and a licentiate of the College of Physicians. Harvey was physician extraordinary to James I and physician-in-ordinary to Charles I. In 1616 he was appointed to the post of Lumleian Lecturer in Anatomy and Surgery to the College, which required him to hold a five-day dissection of a body every winter.⁶ In the Lumleian lectures to the College, Harvey sought to provide his colleagues with the anatomical education he had acquired at Padua. As was becoming increasingly common in European dissections, Harvey lectured and dissected simultaneously. He occasionally identified dead patients and their diseases.⁷ For example, along with his father and sister Harvey mentioned the autopsies of his cousin’s husband, the Earl of Leicester’s daughter, Lord Chichester and the anonymous cadavers of the sick poor at St Bartholomew’s Hospital. With the President of the College of Physicians, John Argent, Harvey examined the meninges of Argent’s daughter and the heart of Argent’s relative, Sir Robert Darcy. This tradition of anatomy in the family and the naming of dead patients probably represented an increasing familiarity with handling bodies and a desire to advertise the use of anatomy to households and individuals. It perhaps even acted to encourage autopsies as an ordinary and desirable part of medicine, a situation Katherine Park has similarly argued for Renaissance Italy.⁸

In 1628 Harvey published *Exercitatio anatomica de motu cordis et sanguinis in animalibus* in which he told his readers that he had reached his conclusions about the circulation of the blood, ‘by autopsy on the live and the dead, by reason [and] by experiment.’⁹ As is well known, Harvey’s observations of the circulation of the blood met with a mixed response at best. The diarist John Aubrey reported that Harvey told him, ‘that after his booke of the Circulation of the Blood came-out, that he fell mightily in his practize, and that ’twas beleeved by the Vulgar that he was

5 Harvey, William (1961), *Lectures on the Whole of Anatomy: An Annotated Translation of Prelectiones Anatomiae Universalis*, O’Malley, C.D., Poynter, F.N.L. and Russell, K.F. (eds), Berkeley: University of California Press, p. 75. Kenneth Keele reported that in Harvey’s published works alone he found 63 specific references to post-mortems performed by him. Keele estimated that Harvey must have dissected an additional 40–50 hanged men in the course of the Lumleian Lectures. See ‘William Harvey as Morbid Anatomist’, (August 1962), *Proceedings of the Royal Society of Medicine*, 55, pp. 677–85.

6 On the creation of the surgical lecture in 1581 by Richard Caldwell and Lord Lumley see Harvey, *Lectures on the Whole of Anatomy*, pp.1–11.

7 Harvey used English to describe his cases and personal recollections because Latin would have been difficult given its limited medical vocabulary, notes French in *William Harvey’s Natural Philosophy*. Perhaps English was also used to entertain the less medically minded visitors at his lectures?

8 See Park, Katharine (1994), ‘The Criminal and Saintly Body: Autopsy and Dissection in Renaissance Italy’, *Renaissance Quarterly*, 47, pp. 1–33.

9 Harvey, *Lectures on the Whole of Anatomy*, pp.76 and 99.

crack-brained; and all the physicians were against his opinion ...¹⁰ However by 1653 Harvey was being lauded in verse by Commonwealth poet Martin Lluelyn as the wielder of a knife that had made ‘living laboratories of the beasts’ for ‘there thy Observing Eye first found the Art /Of all the Wheels and Clock-work of the Heart.’¹¹ The Cartesian overtones are unmistakable.

In 1654 the Harveian Museum, with its 1,280 titles in the medical sciences and natural philosophy, eight dozen dissecting and surgical instruments and an equal number of preparations, was opened to great fanfare at the College of Physicians. Two years later Harvey was elected President of the College, an honour he declined because of ill health and age.¹² His endowments were recognized with poems and speeches praising his discoveries and heroic character. Harvey needed ‘not a club, but only his dissecting knife to slay the seven-headed hydra of error.’¹³

In just over 20 years Harvey had been elevated by his peers from ‘crack-brained’ to the founding father of English anatomy. This was as much due to his invention of a successful method of practising human dissection and animal vivisection that could be easily replicated as it was to the discovery of the circulation of the blood. In London from the late 1630s and later at Oxford during the siege between May and June 1645, Harvey accumulated admirers who, individually and then collectively, undertook research projects in anatomy. Physicians such as George Ent, Francis Glisson, Nathaniel Highmore, Thomas Wharton, Walter Charleton, William Petty and Thomas Willis investigated anatomy through repeated dissections of felons, vivisection of animals and post-mortems of private patients. They made visible and published the ‘new knowledge’ of which Harvey had spoken and linked it to fevers, ferments and diseases.¹⁴

10 Aubrey, John (1898), *Brief Lives*, ed. Andrew Clark, Oxford: Clarendon Press, 1, p. 300.

11 Martin Lluelyn or Llewellyn was a doctor who had been with Harvey at the Oxford siege. See Frank, Jr, Robert G. (1979), ‘The Image of Harvey in Commonwealth and Restoration England’, in Bylebyl, Jerome J. (ed.), *William Harvey and His Age: The Professional and Social Context of the Discovery of Circulation*, Baltimore: John Hopkins University Press, pp. 103–36, information from p. 123. Like Francis Drake, Harvey had become a ‘*Circulator* (but) of the *Lesser World*.’ Jonathan Sawday discusses Lluelyn in *The Body Emblazoned*. Harvey’s *De generatione animalium* appeared in 1653 in an English translation (Latin edition, 1651). It was prefaced with celebratory verses by Martin Lluelyn ‘which set a tone that was deeply misogynist’ and celebrated Harvey as the heroic male scientist ‘in a language of potency’, p. 238.

12 See Frank, ‘The Image of Harvey’, pp. 114–15.

13 Frank, Robert (1979), *English Scientific Virtuosi in the 16th and 17th Centuries*, Los Angeles: William Andrews Clark Library, p. 100, quoting Dr John Collop in 1656 before the College.

14 George Ent defended the circulation of the blood in *Apologia pro circulatione sanguinis* (1641). Francis Glisson wrote a clinical treatise on rickets *De rachitide* (1650) and on the liver *Anatomia hepatis* (1654). Nathaniel Highmore’s *Corporis humani disquisitio anatomica* (1651) supported Harvey’s anatomical method, while Thomas Wharton’s *Adenographia* (1656) detailed new discoveries on the glands. Walter Charleton’s *Oeconomia animalis* (1659) discussed physiology. Thomas Willis in *Diatribae duae* (1659) applied anatomy to fevers and ferments. See Frank, ‘The Image of Harvey’. He describes a network of at least two dozen

The training of an anatomist

William Harvey may well have witnessed a dissection as a student at Gonville and Caius College, Cambridge. However the roots of Harvey's later investigations lay in the education he received in medical Galenism and the humanist tradition of anatomy while a medical student at the University of Padua from 1599 to 1602.¹⁵ By the later sixteenth century the idea of anatomy developed by Vesalius had become firmly fixed at Italian universities. The authority of anatomy was established through a carefully managed public spectacle, pedagogical techniques whereby it was promoted as a distinct discipline within the medical tradition and a construction of the body by the lecturer as the authoritative source of knowledge. Harvey's first exposure to the systematic medical dismemberment of the human body probably occurred within the purpose-built theatre of anatomy at the University of Padua.¹⁶ There, Harvey developed certain mechanisms of adjustment and defence during his early clinical training.¹⁷

The theatre was built between 1593 and 1594 in the shape of a funnel and although only 10 by 7.5 metres (33 by 25 feet) across, had room for two to three hundred standing spectators. As no daylight penetrated, it was lit by two chandeliers with four candles each and eight candles held by the students. Harvey was the head, or Chancellor, of the English nation of students at Padua and would presumably have sat in the second or third tier.¹⁸ Conditions during the public anatomies Harvey witnessed would have been overcrowded and dark, while the smell emanating from the cadaver and the excited crowd must have been oppressive.¹⁹

anatomists working in Oxford, Cambridge and London which 'had its origin in Harvey', p. 106.

15 See Jones, Peter Murray (1988), 'Thomas Lorkyn's Dissections, 1564/5 and 1566/7', in *Transactions of the Cambridge Bibliographical Society*, 9, pp. 209–29. Jones concludes, 'It is clear that in the 1560's at least dissection did take place, and was attended by men who went on to become leaders of the medical profession', p. 226. Keynes speculates that Harvey's reference to the small liver and spleen that he had seen in a corpse at Cambridge in the Lumleian lectures suggests he may have attended a dissection there, *The Life of William Harvey*, p. 11.

16 For a detailed discussion of the anatomy theatre at Padua, see Klestinec, Cynthia (2004), 'A History of Anatomy Theaters in Sixteenth-Century Padua', *Journal of the History of Medicine and Allied Sciences*, 59 (3), pp. 375–412.

17 On Harvey's time at Padua see Berti-Bock, G., Premuda, L., Vial, F., Rulliere, R., (1980) 'Le séjour de William HARVEY à Padoue', *Histoire des Sciences Medicales*, 14 (1), pp. 317–24, and Whitteridge, Gweneth (1971), *William Harvey and the Circulation of the Blood*, London: Macdonald.

18 Castiglioni, Arturo (May 1941), 'The Origin and Development of the Anatomical Theater to the End of the Renaissance', *Ciba Symposia*, 3, (2), pp. 826–44. Also see Lunsingh Scheurleer, Th. H. (1975), 'Un Amphithéâtre D'Anatomie Moralisée', in Th. H. Lunsingh Scheurleer and G.H.M. Posthumus Meyjes (eds), *Leiden University in the Seventeenth Century: An Exchange of Learning*, Leiden: Leiden University Press, pp. 217–77. The theatre at Leiden was much larger, better lit and airier than Padua.

19 See Bylebyl, Jerome (1987), 'The School of Padua: Humanistic Medicine in the Sixteenth Century,' in Charles Webster (ed.), *Health, Medicine and Mortality in the Sixteenth*

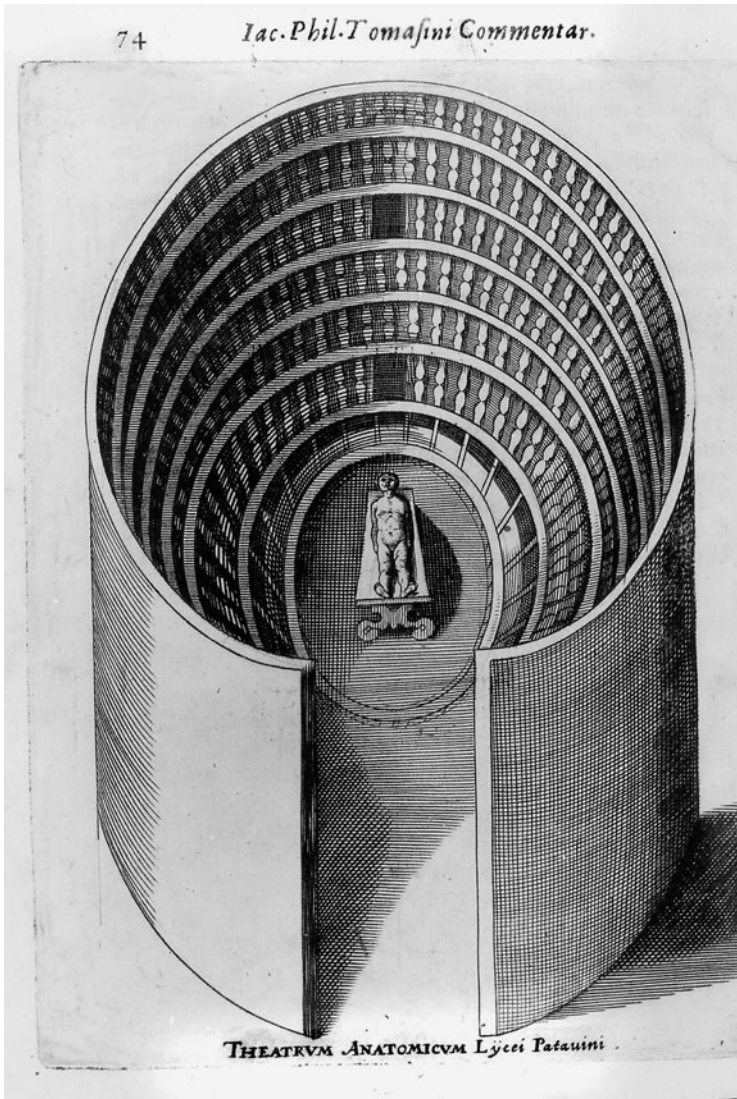


Figure 1.1 The anatomy theatre of Padua in the late sixteenth century. From G. F. Tomasini, *Gymnasium Patavinum ... Ultini*, 1654. By kind permission of the Clendening Library.

Century, Cambridge: Cambridge University Press, pp. 361–63, for more details on Padua. Also see Ferrari, Giovanna (November 1987), ‘Public Anatomy Lessons and the Carnival in Bologna’, *Past and Present*, 117, pp. 50–106, Rupp, Jan (1990), ‘Matters of Life and Death: the social and cultural conditions of the rise of anatomical theaters, with special reference to seventeenth century Holland’, *History of Science*, 28, pp. 264–87 and Rupp (March 1992), ‘Michel Foucault, Body Politics and the Rise and Expansion of Modern Anatomy’, *Journal of Historical Sociology*, 5 (1), pp. 31–59.

Cynthia Klestinec discusses the formal atmosphere and aesthetic features of the new theatre in Padua including the role of musicians.²⁰ She contrasts the style of Vesalius – constantly dissecting and talking to his students, encouraging questions and touching of the body – to that of Fabricius who focused on the exposition of the causes of human nature. Fabricius was one of Harvey’s professors and appears to have encouraged his students to listen to his philosophical musings on the body rather than touch and ask questions.²¹ Klestinec concludes that in the late sixteenth century two styles of anatomy evolved at Padua. One was a low style, oriented around dissection, structural anatomy and the students. It was much like the format of their private lessons and probably took place in the rooms under the main theatre floor.²² The high style developed in public demonstrations that promoted and published the symbolic significance of anatomy.²³ In the 1590s when Harvey was a student:

Students continued to seek private instruction, associating it with the comprehensive treatment of the body and the opportunity to see and perhaps practice surgical operations In private settings, they asked questions, participating in the labors of their own intellectual development. In public settings ... they attended the university event, watched the entrance of important university officials and professors, appreciated the decor of the theater, and awaited the pleasant sounds of music and orations on the nature of man.²⁴

At least when it came to public demonstrations, Continental anatomy theatres were meant to be harmonious spaces. There the body could be presented, in a pleasant fashion as the foremost example of the wisdom of God, to the audience of future physicians and interested dignitaries. Johann Vesling, Professor in Anatomy at Padua during the 1640s, stated in the preface to his volume on anatomy:

I framed this smal [sic] Work, in the manner as we shew it in publick Dissections of the Body of Man: I avoided Controversies, which belong rather to Contemplatists, than the Theatres of Anatomists, *which were built to behold, not to dispute in.*²⁵

What do we know about the role of the anatomist at public events and how the audience may have emotionally responded to listening and watching a dissection in progress?

20 Klestinec, p. 380.

21 Ibid., p. 381.

22 For more information on Renaissance anatomy including which bodies were chosen for dissection, see Carlino, Andrea (1999), *Books of the Body: Anatomical Ritual and Renaissance Learning*, Chicago: University of Chicago Press. This was originally published as *La Fabbrica Del Corpo: Libri e dissezione nel Rinascimento*, Torino: Giulio Einaudi editore in 1994.

23 Klestinec, p. 410.

24 Ibid., p. 403

25 Veslingus, Johannes (1653), *The Anatomy of the Body of the Man, wherein is exactly describes every part thereof, in the same manner as it is commonly shewed in Publick Anatomies*, London. Johann Vesling was Chair of Anatomy at Padua and his work was translated from the Latin by Nicholas Culpeper.

A sense of the visual feast presented by anatomizing to the audience at Padua was captured in the diary of the naturalist John Evelyn. In 1646 he watched Vesling dissect and lecture:²⁶

[I] went to Padoa to be present at the famous Anatomie lecture, which is here celebrated with extraordinary apparatus, lasting almost a whole moneth. During this time I saw a woman, a child, and a man dissected with all the manual operations of chirurgion on the humane body. The one was performed by Cavalier Vestlingius and Dr. Jo Athelsteinus Leonaenas ... When the Anatomie Lectures, which were in the mornings, were ended, I went to see cures don in the Hospitals²⁷

Evelyn was so impressed by the skill of the anatomists when it came to cutting on the body that he purchased a large and expensive souvenir, a ‘rare Tables of Veines and Nerves, and caus’d him [Leonaenas] to prepare a third of the Lungs, Liver, and Nervi sexti par; with the Gastric Veines.’²⁸

A description of anatomy at the University of Padua also comes from John Finch (1626–82). Finch was related to William Harvey, and his father Heneage Finch, witnessed Harvey’s will.²⁹ In one of his notebooks Finch copied out a Latin poem written by his companion and fellow Padua medical student, Thomas Baines, in praise of their Professor of Anatomy, Antonio Molinetti.³⁰ Baines first commented upon the many ‘stupendous things’ we have seen in the bodies ‘to which you apply your hand’:³¹

26 Vesling and Harvey corresponded and the former’s book, *Syntagma anatomicum*, with its praise of Harvey’s discovery of the circulation of the blood was used as a tutorial text at Oxford in the 1650s by the head of Hart Hall, Philip Stephens. See Frank, ‘The Image of Harvey’, p. 112.

27 (1819) *Memoirs illustrative of the life and writings of John Evelyn ... edited by William Bray*, London, p. 203.

28 Evelyn presented the tables to the Royal Society in 1667. See *Musaeum Regalis Societatis or a catalogue and description of the natural and artificial rarities belonging to the Royal Society*, London, Printed by W. Rawlins, for the Author, 1681. ‘All the Principal VEINS, ARTERIES, and NERVES, both of the Limbs and Viscera. The generous Gift of John Evelyn Esquire. He brought them at Padoa, where he saw them with great industry and exactness (according to the best method then used) taken out of the body of a Man, and very curiously spread upon four large TABLES, whereon they are now preserved.’ p. 4.

29 Heneage Finch became Lord Chancellor and Earl of Nottingham.

30 In 1649 the Venetian Antonio Molinetti succeeded Vesling as Professor of Anatomy at Padua. Molinetti especially studied the sense organs. On his work see Bosatra, Andrea (1954), ‘L’organo dell’udito negli studi di Antonio Molinetti anatomico padovano del ‘600’, *Minerva otorinolaringologica*, 4, pp. 99–102.

31 Malloch, Archibald (1917), *Finch and Baines: A Seventeenth Century Friendship*, Cambridge: Cambridge University Press, p. 15. Malloch provided both the Latin and the translation. I am very grateful to Andrew Cunningham for correcting the last stanza of the poem. ‘Stupenda vidimus! ... Molinette sic decet queis admoves manum p.14. The poem was written in the notebook in 1662 but is probably from 1652–56 when Finch and Baines were medical students at Padua. On John Finch and his career see Villani, Stefano (2005), ‘Between Anatomy and Politics: John Finch and Italy, 1649–1671’ in Pelling, Margaret and

But hear, kind Father, the gentle complainings of thy children ... you solve all enigmas and you weave knots. We cease to wonder at man; but a new labour arises: we begin to be amazed at Molinetti alone. While you search the supple pathways of the blood, its nimble course, its slippery passages, behold our own blood seized with ecstasy, halts inert in our veins ... you do not dissect bodies, Molinetti, but adorn them. You bring them into the Theatre cleansed from all dirt, perfectly in limb, and the obedient muscles are freed at your touch; thus you do not display yourself, the anatomist, but what is far greater, God.³²

Baines's gentle satire supports Klestinec's argument that high and low styles of anatomy evolved at Padua. Here the body is presented in the high style, sanitized and at the command of a somewhat jaded anatomist who 'adorns' bodies rather than 'dissects' them.

What emotions are elicited and repressed here? First, there is awe at the abilities of Molinetti to deconstruct the body with words and knives. In fact, Molinetti is so skilled at deconstructing the body that it ceases to exist for the students; instead, the living body of the anatomist becomes the focus of the dissection. Second, there is reverence. As Molinetti reveals the dead body to be no mystery, the students 'cease to wonder' at it and instead focus on the anatomist – 'we begin to be amazed at Molinetti alone.' Third, as the students switch from watching the body to watching Molinetti, they become conscious of their own bodies – 'behold our own blood seized with ecstasy, halts inert in our veins.' Finally, there is pleasure in the beauty of the corpse, the 'them' that respond to the commands of the anatomist. As Vesling stated in the preface to *The Anatomy of the Body of the Man* the theatre can function as a contemplative space in which reverential conditions are produced and one can behold God. In this case God is worshipped through the skills of the anatomist who acts as an earthly conduit revealing the wonders of the universe to 'thy children'.

In 1659 the same John Finch was appointed Professor of Anatomy at the University of Pisa. He appears to have learned his lesson well from Molinetti for Finch was lauded at his inauguration for being the ideal anatomist – 'keen in mind, a lynx with the knife, clever with a learned tongue, you cut everything, you see everything, and you are silent about nothing.'³³ The sharpness of Finch's mind, knife and tongue represented the emotional honing his head, hands and heart had received as a student of Molinetti's.³⁴

Mandelbrote, Scott (eds), *The Practice of Reform in Health, Medicine, and Science, 1500–2000*, Aldershot and Burlington, VT: Ashgate, pp.151–166.

32 'Sed filiorum sentias clemens Pater/ Dulces querelas, quas vagientes proferunt/ Enigmaes omnes solvis, et nectis nodos/ Desinimus admirari hominem, at novus labor/ Incipimus unum obstupescere Molinettum/ Qui flexuosos sanguinis dum tramites/ Agilemque cursum permeatus lubricos/ Scrutaris, en sanguis correptus extasi/ Stat piger in venis, nescitque progredi/ Quia cum stupore viderat motum suum ... Dissectiones laudent queis placent tuas/ Parcuis oportet istas: nam me iudice/ Non dissecas Molinette sed adornas corpora/ Et sordibus remotis, in crus integrum/ Producis in Theatrum, et sequaces musculi/ Solvuntur ad tactum; sic non Te Anatomicum/ Praestas sed id quod abunde magis est, Deum.' Malloch, p.15.

33 Malloch, p. 27.

34 In 1661 Thomas Baines succeeded William Petty as Professor of Music at Gresham College. Villani, p. 156.

Dissections appear to have elicited feelings of awe, satisfaction and pleasure in students. They were excited and fascinated by the skill of the anatomist and passionate about his manipulation of the body. Such passion may have acted to repress any feelings of disgust at the sight of a dismembered body. However, living bodies were not clean, still or obedient and caused different emotions in students. When exposed to the more chaotic clinical rounds and post mortems at the Hospital of San Francesco that adjoined the University of Padua, distance from the body was far less achievable.

By the late sixteenth century, daily hospital rounds with formal discussion of major cases, systematic teaching of urines and pulses, and autopsies of fatal cases were part of the medical education at Padua. It quickly became apparent that the foreign students came to Padua because of the bedside precepting or practical training in medicine. After all, they could get the theory at home. Most foreign students, including William Harvey, had taken their first degrees where practical medicine was not available.³⁵ In 1597 they protested when the Moderators of the University tried to restrict visiting of the sick due to poor attendance at the public (high style) lectures. As a medical student following the great Fabricius or some other professor around the crowded wards of San Francesco Hospital, watching them first treat then dissect patients, Harvey would have been exposed to practical methods of dealing with suffering, death and the dismemberment of the human body. His memories of the hospital, along with his later experiences as the primary physician to St Bartholomew's Hospital in London, suggest that there were some situations in which even Harvey had difficulty overcoming his emotional reaction.³⁶

While discussing differing types of liver abscesses, some 'Hard from tension ... like a heape of pus of pale yellow colour' Harvey commented, 'I observed these things in the hospital (Saint Bartholomew's) as well as in the hospitals of Italy with much nausea, loathing, and foetor. I have forgotten many things.'³⁷ The use of 'forgotten' is telling as is the reaction to the liver abscesses that Harvey experienced. What disturbed him was the smell which provoked nausea and the subsequent loathing and foetor. Harvey also recognized that he had forgotten or tried to repress many olfactory memories of the patients he saw. Such a defence mechanism was vital if he was to open bodies and explore their decaying contents.

No doubt the dissection of the abdominal region presented Harvey with the prime example of the cadaver as an aesthetically repulsive object, 'Ist. lower venter, nasty yet recompensed by admirable variety' he wrote in his lecture notes. As the largest cavity in the human body, fluids naturally collected there and nondescript organs such as the soft and slippery intestines would be full of undigested food and faecal matter at times. When opened, this resulted in a horrendous stench. Moreover, in the summer heat of Italy, rancid fat must have flowed through the hands of the dissector as he worked in the abdominal region.

35 Bylebyl, 'The School of Padua', especially pp. 350–51.

36 Bylebyl confirms that there were daily hospital rounds with formal discussion of major cases and autopsies of fatal cases in the late sixteenth century at the hospital of San Francesco, 'The School of Padua', p.364.

37 Whitteridge, p. 14.

The physician Thomas Wharton, an admirer of Harvey, performed an autopsy on a judge in the summer of 1673 in Cornwall. ‘Despite the smell soe violent and offensive to us all’ he opened the body ‘being overborne with the curiosity of finding something of the realities of the cause.’³⁸ The body had been laid unsalted in an upper room of a pub, and the fat around the omentum flowed through Wharton’s fingers during the first incision. However Wharton’s curiosity had overcome his nausea at the body and allowed him to act with dispassion when trying to ascertain the cause of plague. He was part of the emotional community of medical men who had been trained to act in situations that normally would provoke disgust and even fear. They emulated their teachers in anatomy who instilled fascination, awe and a strong desire to learn from the body. This helped them to overcome the sight and smell of a cadaver. Harvey’s remark, ‘I have forgotten many things’ refers to this training. The desire for knowledge could temporarily suspend disgust but not permanently wipe out the memory of the smell, touch and sight of a decaying or diseased body. With this in mind let us consider Harvey’s career as an anatomist.

The making of an anatomist

On his return to England from Padua, Harvey first obtained membership in 1603 of the College of Physicians and the following year he married Elizabeth, the daughter of Dr Lancelot Browne. In marrying Elizabeth Browne, Harvey displayed his social ambition to rise above the level of a merchant’s son from Folkestone, Kent.³⁹ Lancelot Browne was one of the court physicians to James I and appeared to have tried unsuccessfully, in 1604, to obtain for his son-in-law a position at court and an appointment as physician to the Tower of London. In 1609 as a Fellow of the College, however, Harvey was successful in gaining a position as a physician to St Bartholomew’s Hospital.⁴⁰ By 1614 he was one of the Censors of the College and in 1615 accepted the post of Lumleian lecturer. This was a stipendiary position and Harvey, with some significant gaps due to the Civil War, was to hold it for 41 years. He lectured on anatomy to physicians and surgeons at the College every two years from 1616 and held a five-day dissection each winter.

Harvey followed the approach he had been taught at Padua. He focused on the function and purpose of each anatomical structure, ultimately relating it to the cause

38 From the letterbook of Thomas Wharton, quoted in Harley, David (July 1994) ‘Political Post-mortems and Morbid Anatomy in Seventeenth-Century England’, *Social History of Medicine*, 7 (1), pp. 1–28.

39 See Aubrey, pp. 129–32.

40 He received an annual stipend of £25 and ‘was required to attend on at least one day a week in the Great Hall of the Hospital to see his patients and prescribe for them, and to come at any other time at the request of the Matron. He was to write his prescriptions in a book without favour or gain to himself. He was expected to go to the wards only if the patient was too ill to come to him.’ He also supervised the surgeons. See Medvei, Victor Cornelius and Thornton, John L. (1974), *The Royal Hospital of Saint Bartholomew 1123–1973*, London: The Royal Hospital of Saint Bartholomew, p. 105.

of disease rather than describing and enumerating the parts.⁴¹ Under the heading *Canons of General Anatomy* Harvey detailed the first four principles according to which the anatomy and surgery lessons were to be conducted:

1. Shew as much in one viewing as can be, from the whole belly or from the whole of some other part
2. Point out the peculiarities of the particular body ... and the things that are new or but newly discovered.
3. To supplye only by speech what cannot be shewn, on your own credit or by authority.
4. Cutt up as much as may be in the view of all, that practical skill may be learned together with theoretical knowledge.⁴²

Like all novice medical men Harvey learned that it was the quickly decaying cadaver that dictated the timing and contents of the dissection. But given these restrictions Harvey was obviously determined to individualise each lesson, allowing the ‘peculiarities’ of the body to guide his presentation and yet still retain control of the dissecting process. For him the body was not a stable object but one that was constantly changing in terms of decaying tissues, diseases it might reveal and smells it emanated.

Harvey’s *Canons* reflected the qualities necessary in a skilled anatomist: faithful eyes to see and show the body, an eloquent tongue to speak of the strangeness of this body and relate it to new knowledge, a keen mind able to explain what cannot be seen, and a sharp knife to cut up the body for the best viewing by the audience. This is the low style anatomy if we use Klestinec’s definition, oriented around dissection, structural anatomy and the students, but it also contains elements of the high style in Harvey’s desire to promote the symbolic significance of anatomy and the anatomist.

No first-hand accounts or illustrations of Harvey conducting his anatomies at the Royal College of Physicians in London are known to exist. Luke Wilson has attempted to reconstruct Harvey’s personal lecture notes from the second decade of the seventeenth century, ‘as a text that was written obviously but more subtly too, in his response to the claims the body lays to the attentions of the mind.’⁴³ The *Prelectiones anatomiae universalis* date from about 1616 to 1626, and Wilson argues that in them Harvey can be viewed as reconstituting the body ‘analogically, in the tension between the absolute difference between anatomist and cadaver.’⁴⁴ By this Wilson means that over time the corpse is first ritually dismantled through the dissection and then reconstituted through the anatomy. In dissecting, the anatomist demonstrates that the body is dead and, by contrast, highlights the animation of

41 See Cunningham, Andrew (1997), *The Anatomical Renaissance: The Resurrection of the Anatomical Projects of the Ancients*, Aldershot: Scolar Press.

42 Whitteridge, p. 16.

43 Wilson, Luke (Winter, 1987) ‘William Harvey’s *Prelectiones*: The Performance of the Body in the Renaissance Theater of Anatomy, *Representations*, 17, pp. 62–95, quotation from p. 62. From the dating Harvey obviously emended his lectures with successive anatomies and included notes to remind himself to change the format of particular passages in the future. Also see Whitteridge, pp. 88–104.

44 *Ibid.*, p. 89.

the spectators and the anatomist. Wilson concludes that showing the morbidity of the cadaver made conscious to the spectators that their bodies were healthy.⁴⁵ Through anatomy Harvey managed his own anxiety and that of the audience. As Jonathon Sawday also concludes, Wilson argues that dissection was a ritual act of public revilement and identification-in-difference, a repetition of the execution that preceded it and provided the body that was to be its subject.⁴⁶

Wilson is less convincing when he describes the anatomy (as opposed to the preliminary dissection) as:

... the reversal in fantasy both of the dissection and of the execution that preceded it, a retroactive pardoning of the guilty that repairs the damage that the punisher in his punishment, and the anatomist in his dissection; have inadvertently worked against themselves. Here, therefore, is the romance of reanimation to balance against the tragedy of dismemberment.⁴⁷

This interpretation ignores the fact that many of Harvey's anatomical experiences did not come from dissecting unknown criminals but from performing post-mortems on patients, often intimately known and even related to him.⁴⁸

A different portrayal of Harvey as lecturer is presented by Robert Erickson. He sees Harvey as possessing a vivid sense of theatre, both of himself as a public performer and of the theatre of the body which he opened to perform upon:

Harvey seems not unlike an Old Testament priest reincarnated, cutting up sheep, goats, female deer, and a variety of other animals (occasionally practising vivisection) as sacrifices to a new goddess, Truth. As an anatomist-author, Harvey was recreating in his finite capacity the divine role of the original anatomist-Author of humankind in Genesis 2 who dissected Adam in order to create a new human being, Eve.⁴⁹

As Thomas Baines had written of Molinetti at Padua, 'thus you do not display yourself, the anatomist, but what is far greater, God.'

While Erickson focuses upon *De motu cordis* rather than the *Prelectiones*, his analysis of the former as, 'a kind of travel narrative of what happens inside the body ... an anatomical labyrinth' is relevant to the latter. Reading the *Prelectiones* is akin to traversing the map of the body. In short phrases Harvey carefully builds an oral, visual and an olfactory portrait of the body gone awry, illustrating each point of the function of the parts with some personal observation of his own. Essentially he speaks for the voiceless organs:

45 *Idem*.

46 *Idem*.

47 *Ibid.*, p. 90. Also see Sawday, *The Body Emblazoned*, particularly the first chapter.

48 Keele, 'William Harvey as Morbid Anatomist', p. 678.

49 Erickson, Robert A. (1993), 'William Harvey's *De motu cordis* and "The Republic of Literature,"' in Roberts, Marie Mulvey, and Porter, Roy (eds), *Literature and Medicine During the Eighteenth Century*, London and New York: Routledge, pp. 58–83, quotation from p. 61.

Size of the stomach. Stomachs of certain gluttons. Gourmandisers, drinkers, have been of huge capacity; many ancient and recent accounts [of these] ... WH Wilkinson of Cambridg. Pigg of ye spitt Sometimes they [testicles] are swollen with a very great quantity of water and flatus; the man behind covent garden bigger than his belly; forme, penis as if of a buffalo I know a Paduan capable of coitus with the glans removed Substance [of the bladder is] membranous, white, and sinewy for strength and retention. Wherefore if wounded it does not consolidate except in the neck, as we have seen daily in dissection; especially in children, torn not cutt.⁵⁰

By interweaving anatomical and salacious knowledge, Harvey was keeping his audience's attention and giving them a vivid moving picture of the interior of the body. As they travelled from stomach to penis to bladder, the *Prelectiones* acted as a tour guide of the major sights along the way.

Unfortunately little evidence has been found of the reception of Harvey's lectures in anatomy and surgery. A rare exception is a Dr Peter Browne (1575–1624) who published a pamphlet *Pseudo-medicorum anatomia* in 1624 with Latin verses praising some of the Fellows of the College. The verses are addressed to the President and Fellows of the College and include one on Harvey. As Geoffrey Keynes notes, Browne 'could have heard Harvey lecture on many occasions over a period of seven years and the date of his book (1624) ensures that his opinion was not influenced by Harvey's later fame after the publication of *De motu cordis* in 1628'⁵¹:

They talk of your learnedly and skilfully treating of anatomy. I have seen it, and your dexterity is hardly to be matched. Your reading is most learned, your dissecting marvellous.

⁵⁰ *The Anatomical Lectures*, pp. 85, 140 and 149. Ralph Wilkinson (c.1544–1609) was a fellow of the College of Physicians and preceded Harvey as Physician to St Bartholomew's Hospital. His 'prowess at the table' would therefore be well known to Harvey and his students. Many of Harvey's writings were destroyed by Parliamentary troops in 1642 when his apartments in the Palace of Whitehall were raided 'lost ... to the prejudice (I may boldly say it) of the Commonwealth of Learning', as Harvey phrased it in *De generatione* in 1653, Keynes, *Life*, p.162. However remaining notes for *De motu locali animalium*, 1627, echo the language of his lecture notes and mention family members, 'risus sardonicus, uncle William Halke dying.' Keynes, *Life*, p. 165.

⁵¹ Keynes, *Life*, p. 110.

What then? Does your skilled hand make me bold? It has! and I should wish (for this your deeds deserve) That what my Muse does first, your clever hand should then cut up.⁵²

The references to Harvey's dexterity, reading, dissecting and skilled hand echoes the *Canons* of his lectures. The effect on Peter Browne was to fill him with courage when it came to dissecting and perhaps cutting on patients.

Harvey's fascination with the monstrous and salacious body extended to the patients he chose, or in some cases, was ordered to see. As a Royal Physician he oversaw the interrogation of witches, examined a nobleman with a hole in his chest through which the beating heart could be touched and performed an autopsy on 'Old Parr', reputed to be 152 years old at the time of his death. As a London physician Harvey appears to have specialized to some extent in obstetric and gynaecologic cases. Some of these have been preserved in *De generatione animalium*, a book published in 1651 to showcase Harvey's work on animal reproduction.

Harvey was named by Charles I to direct an examination by surgeons and midwives of four alleged witches from Lancashire in 1634. No incriminating marks of the devil were found, such as extra nipples to succour familiars or marks of the devil, and the women were released. Perhaps Harvey was chosen by the king to manage the search of the women's bodies because of his interest in obstetric and gynaecological cases and the common belief that marks of witchcraft were typically hidden in women's *secret parts*. Another mark of witchcraft was insensitivity to pain. Robert Boyle recalled Mr Hollyer, a lithotomist at St Thomas' Hospital, describing Harvey's interest in Mary, 'a Maid of about eighteen Years of age, who ... had so lost the sense of feeling in the external parts of her Body' that Hollyer could pin a handkerchief to her neck and cause no pain. 'Dr. Harvey, out of Curiosity, visited her sometimes; and suspecting her strange Distemper to be chiefly Uterine and curable onely by *Hymeneal Exercises*, he advised her Parents ... to take her home, and provide her a Husband ... to many Mens wonder.'⁵³ Mary was not magical, just hysterical.

Harvey was also the arbiter of truth in two other famous cases. Thomas Howard, the Earl of Arundel brought Thomas Parr to London from one of his Shropshire estates to meet the king on account of Parr having reportedly reached the age of 152. Parr soon died, and Harvey was ordered to perform an autopsy on behalf of

52 Ibid., pp.110–111. Keynes gives the Latin and the translation.

Doctori Harvey

TE dextrè & doctè Anatomem tractare loquuntur:

Vidi, & dexteritas vix imitanda tua est.

Lectio perdocta est, dissectio mira: quid ergò?

nùm tua me audacem dextera docta facit?

Fecit, & optarem, nam sic tua facta merentur,

ut quae *Musa priùs*, post tua dextra secet.

Also see, Rowe, Katherine, "'God's handy worke": Divine Complicity and the Anatomist's Touch', in Hillman, David and Mazzio, Carlo (eds) (1997), *The Body In Parts: Fantasies of Corporeality in Early Modern*, London and New York: Routledge, pp. 284–309.

53 Keynes, *Life*, p. 212.

Charles I. The report of the autopsy of ‘Old Parr’ at the age of 152 begins with Harvey noting that ‘the dissection of his dead body’ took place on Queen Henrietta Maria’s birthday, 16 November 1635. This gift was perhaps the most unusual one the queen received that year. Harvey diagnosed the cause of death as suffocation due to the filthy air of London. In Shropshire’s ‘clean, rarefied, coolish and circulating air’ Parr’s diaphragm and lungs had been freely inflated and deflated. His rich diet in London also led to a ‘less vigorous circulation of the blood’.⁵⁴ Harvey was the expert on this topic after all and the report is notable for its focus on the blood, the heart and the genitalia. The latter interest was due to reports that Old Parr had intercourse with his wife up to the age of 140. Harvey was able to confirm that the fine condition of the genital organs suggested that this was in fact true.

Around 1640 King Charles I heard of the case of Viscount Hugh Montgomery, who had a plate covering a large opening in his thorax as a result of a fall when a child. Harvey visited him to ascertain the truth of the matter. His excitement was evident on discovering that he could feel the beating heart through the opening:

Where I presently beheld a vast hole in his breast, into which I could easily put my three Fore-fingers and my Thumb: and at the first entrance I perceived a certain fleshy part sticking out, which was driven in and out by reciprocal motion Being now amazed at the novelty of the thing, I search it again and again ... (and laying one hand upon his wrest, and the other upon his heart) I concluded it to be no part of the Lungs, but the Cone or Substance of the heart.⁵⁵

Harvey brought Montgomery to the king so he could ‘see, and handle this strange and singular Accident with his own Senses; namely, the Heart and its Ventricles in their pulsation, in a young and sprightly Gentleman, without offense to him. Whereupon the King himself consented with me, That the Heart is deprived of the Sense of Feeling.’⁵⁶ Charles I became Harvey’s student, his eyes were directed, his hands were guided and the examination of Montgomery resulted in an anatomical truth – the heart is insensible. The case was included in Harvey’s *De generatione animalium*.

The three Lancashire witches, along with Mary the Maid, Old Parr and Montgomery, show Harvey’s diligence as an anatomist and his belief that examining bodies allowed one to establish the truth. The witches were found to be falsely accused, Mary had a uterine disorder, Old Parr died of suffocation and bad circulation, Montgomery was not a fraud but a wonder. The cases also reveal Harvey’s sceptical attitude towards written or verbal accounts of the unusual or the inexplicable and his need to put such accounts to test through cutting, seeing and training others to see the truth in the body. Did such skill in anatomy actually make one a better doctor? Many were doubtful. Even John Aubrey, the Wiltshire natural philosopher who knew Harvey first hand and thought of himself as one of his friends stated:

⁵⁴ *Ibid.*, p. 224. The report was written in Latin and given to Dr John Betts by Michael Harvey, William Harvey’s nephew. Betts published it as a postscript to *De ortu et natura sanguinis*, (1669), London.

⁵⁵ Keynes, *Life*, p.156.

⁵⁶ *Idem*.

All his Profession would allow him to be an excellent Anatomist, but I never heard of any that admired his Therapeutique way. I knew severall practisers in London that would not have given 3d. for one of his Bills; and that a man could hardly tell by one of his Bills what he did aime at.⁵⁷

The value of anatomy in the practice of medicine

On 1 July 1651 Viscount Conway wrote a letter to his daughter-in-law Anne Conway. Anne suffered from violent and painful headaches:

I heare that you have a great opinion of Doctor Harvey. I thinke you doe well to love and respect a person of his merite for I thinke he hath deserved extreamely well of all learned men, for what he hath found out, or offered to the world to enquire farther into: he is a most excelent Anatomist, and I conceive that to be his Masterpiece, which knowledge is many times of very great use in consultations, but in the practicke of Physicke I conceive him to be mutch, many times, governed by his Phantasy ... to have a Physitian abound in phantasie is a very perilous thing, occations in diseases are very often suddaine, therefore one ought to have a Physitian that should be governed only by his judgment ...⁵⁸

What did the Viscount mean by ‘Phantasy’? Perhaps a further letter to Anne Conway just a few months later in December 1651 may help answer this. This time it was from John Finch, the aforementioned medical student at Padua, who was also Anne’s brother:

I was on Saturday with Sir Kenelm Digby [in Paris] where I had some philosophical discourse: and he heard of your marriage, but wondered with me at your story of Dr Harvey. I must confesse I have scarce faith enough to believe he would cutt himself but rather believe he voyded that stone you speake of then cutt it out; for I doe not see it was possible for him in two days to be able to goe abroad otherwise.⁵⁹

What does this tell us of the reputation of William Harvey?⁶⁰ Finch’s disbelief in the story of Harvey operating on himself for a bladder stone seems predicated on the notion that Harvey would not have been walking around a mere two days after

57 Aubrey, p. 132. A Bill was a prescription.

58 Keynes, *Life*, p. 393. Anne Conway was Heneage Finch’s step-sister. John Finch also wrote to his sister in August 1652 wondering at Harvey’s ‘little successe’ in her case. p. 394.

59 Nicolson, Marjorie Hope, (ed.) (1930), *Conway Letters: The Correspondence of Anne, Viscountess Conway, Henry More, and their Friends, 1642–1684*, New Haven: Yale University Press, p. 60. Nicolson noted that this story appeared nowhere else.

60 Some stories linger on into contemporary times. Antonia Fraser (1973) states that at the battle of Edgehill on 23 October 1642, ‘William Harvey, the scientist, who read a book under a hedge until a bullet grazed the ground, literally showed *sangfroid* by pulling a dead body over him for warmth against the cold clear weather of that freezing night.’ *Cromwell, Our Chief of Men*, London: Weidenfeld and Nicolson, p. 96. However she provides no citation for this story and I have not been able to find it elsewhere. It probably is a confusion with the story of Sir Gervase Scrope. Harvey told John Aubrey that Scrope had been left for dead on the field, stripped of his belongings, and woke to find his bleeding stopped by the cold in the

the operation, rather than on the fact that he would not have ‘cutt himself’ to begin with.

Such stories regarding the bizarre and ‘phantastical’ nature of those who dissected for a living were beginning to circulate in early modern Europe. Beginning in the 1530s a haze of unsavoury stories on the topic of vivisection gradually collected around the names of famous anatomists.⁶¹ Anatomical authors were willing to boast of their illicit behaviours in procuring cadavers and so fan the rumours of vivisection. It was Vesalius who marks the real turning point:

One of the most surprising aspects of his great treatise *On the Fabric of the Human Body* (1543) compared to the works of his predecessors, is his lack of respect for persons and his candid pride in the acts of daring and deception required to obtain what he considered an adequate supply of cadavers. He and his students forged keys, rifled tombs and gibbets, and stole in and out of ossuaries in a series of nighttime escapades that he recounts with evident relish and amusement ...⁶²

Similarly the young Felix Platter gleefully recounted his role in ‘every secret autopsy of corpses’ while a medical student at Montpellier in 1554. He referred to the repulsion ‘I had felt at first’ when I came ‘to put my own hand to the scalpel’ but admitted this quickly passed.⁶³ Soon Platter could aid in the grave robbing and dissection of a ‘student we had known’. Yet as with Harvey the smell of rotting organs lingered long in Platter’s memory, ‘the lungs were decomposed and stank horribly, despite the vinegar that we sprinkled on them ...’⁶⁴

A hundred years after Vesalius the Danish Royal anatomist Thomas Bartholin still found the career of a dissector filled with trials and tribulations:

Neither in our age nor any former one will you readily find an eminent anatomist who has placed domestic ease before the rigors of travel, although it must be warned that the goal sought will not always be a happy one ... Hence almost everywhere anatomists have been victims of misfortune, and if some have been able to avoid these snares that have been debilitated by the stench of the cadavers so that few can hope to reach a venerable age Finally, if spared, they complete the journey and grow old at home with Galen, with no reward except wearied and bloody hands, and those empty.⁶⁵

Here was the anatomist as hero and martyr with his ‘wearied and bloody hands’, scorned by his fellow countrymen and destined to live out his life in poverty. The

middle of the night and ‘was faine to drawe a dead body upon him for warmeth-sake.’ Harvey treated him after Scrope’s son recovered him from the battlefield. Keynes, *Life*, p. 290.

61 Park, Katherine (1994), ‘The Criminal and Sainly Body: Autopsy and Dissection in Renaissance Italy’, *Renaissance Quarterly*, 47, pp. 1–33.

62 *Ibid.*, p. 17.

63 *Beloved Son Felix: The Journal of Felix Platter a medical student at Montpellier in the Sixteenth Century* (1961), trans. and introduced by Jennett, Sean, London: Frederick Muller Limited, p. 89.

64 *Ibid.*, p. 90.

65 Bartholin, Thomas (1961), *On the Burning of His Library and On Medical Travel*, trans. O’Malley, C.D., Lawrence: The University of Kansas Libraries, p. 52.

elderly Bartholin had forgotten or perhaps never experienced the excitement of a night-time hunt for cadavers. However he recalled the stench of the cadavers and related this to the premature deaths of some anatomists. This was an argument that grew in strength throughout the next two centuries. Bartholin also drew attention to the misunderstanding that those who dissected were subject to, and echoed Harvey's words that many perceived him to be 'crack-brain'd' due to his reliance on anatomy as truth.

Certainly the gruesome yet fascinating art of anatomy had an effect upon the emotions of others. In 1627 or 1628 Joseph Mede, a divinity student at Christ's College Cambridge, described a dissection in a letter to his father:

We had an anatomy lecture upon a boy of some 18 years old, Monday, Tuesday, Wednesday, twice a day the last two dayes. I was once there, but saw it so ill accommodated that I came no more; for it was in the regent house upon a table, when onely halfe a skore doctors could come to see anything, standing close by the table, and so hindering others seeing, which was the chiefe; for I can read as good as they could heare, and with more ease. It will be next time I hope better, for our new doctor will have one every yeare. We heare talke that the body was begged before any was condemned, which if true was very absurd.⁶⁶

Mede was about the age of the boy who had been hanged but here he expresses no emotion except for frustration. He hopes that there will be another opportunity where he can see the body rather than just hear the lecture. He finds it ludicrous that this body may have been preordered by the anatomist, and the whole event strikes Mede as somewhat farcical with the crowd of doctors around the table shoving and pushing one another in an attempt to see the dissection.

On 16 April 1631 Mede stumbled across the remains of a dissected cadaver and this time he had a different reaction. He wrote home to his father about the shock it gave him:

Going on Wednesday from Jesus Colledge pensionary with Dr Ward to his Colledge through the closes and gardens and espying a garden dore open I entred and saw there a hideous sight of the skull and all the other bones of a man with ligaments and tendons hanging and drying in the sun by strings upon trees, etc., I asked what it meant. They told me it was the pedler they anatomised this Lent and that when his bones were dry they were to sett together again as they did naturally and so reserved in a chest or coffin for their use who desired such an inspection. It was the garden of one Seale a surgeon and a chief in dissection.⁶⁷

Unlike the anatomy lecture, this event was unexpected and Mede was initially bewildered by it, 'I asked what it meant.'

66 Keynes, *Life*, p. 16.

67 Costello, William T. (1958), *The Scholastic Curriculum at Early Seventeenth-Century Cambridge*, Cambridge, MA: Harvard University Press, p. 130. Costello speculates that the dissector was perhaps the Regius Professor of Physic, John Collins (1572–1634) who was also lecturer in anatomy to the College of Physicians.

From Conway's story of Harvey cutting on himself for the stone, to Platter stealing corpses and retching at the smell of decay, to Bartholin's plaintive lament that anatomists get no respect, to Mede's shock at seeing an eviscerated carcass hanging from the trees in a university garden, the evidence of the development of an unsavoury reputation for those who dissected mounted. At the same time the qualities desired in an anatomist were being defined and satirized.

The focus of much of the doggerel was the masculine bravery – or lack thereof – of certain dissectors. In Oxford Dr Thomas Clayton (1575–1647) arranged for his eldest son, Thomas (1612–93), to succeed him as the Tomlins reader in anatomy. He was clearly unsuited for these posts, 'being posses'd with a timorous and effeminate Humour, [he] could never endure the sight of a mangled or bloody Body.'⁶⁸ Clayton lacked all the qualities necessary to be a good anatomist as outlined by Harvey. He could not 'shew, cutt or point out' any of the marvels or monstrosities of nature. In turn his own body was declared to be monstrous because he had the humoral makeup of a woman. Poor Thomas Clayton was naturally subjected to scurrilous student songs:

Well noble Knight our Anatomiste
 Take my advice.
 Bee pleas'd to desist from reading.
 And mistake no parte
 No not a liver for the hart
 As last you did.
 Trade not in blood
 Be advised by your friends,
 o good Sr Thomas.⁶⁹

William Petty (1623–87), the son of a Romsey, Kent clothier and graduate in medicine of Leiden University deputized for the squeamish Thomas Clayton. As one of the early admirers of Harvey's accomplishments, Petty had already undertaken anatomical research in Paris and London during the late 1640s. As with Harvey, there soon arose a mythology surrounding Petty as an anatomist of some bravado, skill and imagination. According to John Aubrey, 'Anatomy was then but little understood by the university, and I remember he [Petty] kept a body that he brought by water from Reding a good while to read upon some way soused or pickled.'⁷⁰ In contrast to Thomas Clayton's lack of courage when faced with a corpse, the story of William Petty's role in the resuscitation of Anne Greene in 1650 was one of drama and heroics.⁷¹

68 Dewhurst, Kenneth (1980), *Willis' Oxford Lectures*, Oxford: Sandford Publications, p. 402. Clayton was a devout Royalist, the Master of Pembroke College and had succeeded his father-in-law to the post of Regius Professor. The quotation regarding Clayton's son comes from Anthony á Wood (1721), *Athenae Oxonienses*, 2nd ed., 2, p. 807.

69 Dewhurst, p. 403.

70 *Ibid.*, p. 404. In 1651 Petty left Oxford to serve as Physician-in-Chief to Cromwell's army in Ireland.

71 Scott Mandelbrote gives a complete and intriguing account of this incident in (2005), 'William Petty and Anne Greene: Medical and Political Reform in Commonwealth Oxford' in

Her tale was published as a broadsheet by a Richard Watkins in Oxford with the catchy title of *Newes from the Dead. Or a true and Exact Narration of the Miraculous deliverance of Anne Greene* (1651). A servant girl, Greene was found guilty of murdering her illegitimate child, and on the 14 December 1650 she was publicly hanged in the centre of Oxford. Petty had made arrangements with the authorities to take her body to his High Street lodgings. It was also the home of John Clarke who had been Harvey's apothecary. There he was to dissect her with the aid of Thomas Willis (1621–75) in front of members of an experimental club that met weekly in his rooms.⁷²

Anne Greene hung for nearly half an hour and, as was customary, her friends swung on her legs to speed her death. The undersheriff began to fear that they would pull the rope and her body down and quickly ordered the rope to be cut and her body placed in a coffin, provided by Petty. This was part of the fee he had paid for the opportunity to dissect her. When the coffin was opened at Petty's lodgings, however, Anne Greene was heard to breathe with a rattling noise, and no doubt in terror at her suffering more, an onlooker stamped several times on her chest and stomach to try to kill her.

When Petty and Willis entered the room they were told she appeared to have recently taken a breath and noticed that she 'rattle againe where-upon wee fell to worke'.⁷³ Greene was placed in Petty's bed, hot cordials were poured down her throat, she was bled, given a clyster, her feet and hands were vigorously rubbed, a feather was put down her throat and a woman obligingly rolled into bed to help warm her. The following morning she was talking rationally, and a delighted Petty and Willis sat down to write and submit a petition for mercy. There was no law that said she could not be hanged again, and the ground of their appeal was that her abortive or stillborn foetus had been imperfect and therefore not viable. After obtaining a pardon, Petty and Willis exhibited Greene as a medical curiosity in her coffin in the very room where they would have dissected her. Greene's father was brought in to collect the entrance fees and they had to arrange for guards to control the multitudes that flocked to see her. Petty and Willis were celebrated in verse and prose, including these lines from an undergraduate of Christ Church:

Thus 'tis more easy to recall the Dead
Than to restore a once-lost Maidenhead.⁷⁴

Anne Green lived another nine years, married and had three children. As Mandelbrote demonstrates, Petty was careful to construct the revival of Anne Greene as a consequence of his understanding of blood circulation and willingness to experiment,

The Practice of Reform in Health, Medicine, and Science, 1500–2000, pp. 125–49.

⁷² *Ibid.*, p. 125.

⁷³ *Ibid.*, p. 126 quoting from a letter to Samuel Hartlib written by Petty on 16 December 1650.

⁷⁴ Watkins includes the verse in 1651, *Newes from the Dead. Or a true and Exact Narration of the Miraculous deliverance of Anne Greene*, Oxford, and states the author was Kingsmill Lucy, p. 9. Petty gave his version of Anne Greene's recovery. See (1927), *The Petty Papers*, Marquis of Lansdowne (ed.), London, 2, pp. 157–67. Robert Plot in (1677), *The*

rather than providence. It made Petty's reputation and fortune as a cool-headed and skilled anatomist.⁷⁵

On a more serious note, elegies were composed reflecting the character of those who anatomized. In 1677 Nathaniel Williams published an elegy for Thomas Willis, one of Anne Greene's revivers. Its portrayal of the wonders anatomists reveal, and the final anatomy their own bodies make, echo the mixture of unease and fascination for dissection seen by the public of the period:

Thou knew the wonderous art,
 And order of each part ...
 In the whole lump, how every sense,
 Contributes to the health's defense.
 The severall, Channels which convey,
 The vitall current every way,
 Trackst wise Nature every where,
 In every region, every sphere,
 Fathomest the mistery
 Of deepe Anathomy.
 The unactive carcasse thou hadst preyed upon,
 And stript it to a sceleton,
 But now alas! the art is gone,
 And now on thee,
 The crawling Worms experience their Anatomy.⁷⁶

The references in Willis's elegy to the relentless and predatory nature of anatomists – and the ultimate futility of such detailed knowledge of the corruptible body – were not lost on the critics of dissection-crazed physicians. Perhaps reflective of the fact that the Royalist Harvey's programme of sustained anatomizing was taking hold, wholesale attacks on the art of anatomy were launched during the Interregnum as part of the campaigns to reform medicine.

In *Mataeotechnia medicinae praxeos: the Vanity of the Craft of Physick* (1651) the self-avowed 'Chymiatrophilos' Noah Biggs attacked the cruelty and uselessness of anatomy. He made particular reference to William Harvey and his followers 'who inquire unto capillary veins':

To what ends tends the Anatomy of these two thousand years, with those tedious lectures, if the sanation of diseases, be not more happier at this day, then of old? What meanes that tearing and Cadaverous dissection of bodies, with that curious inspection and inquisition into the capillary veines, if we may not learn by the Errors of the Ancients, and if we may not make an emendation of those things that are past.⁷⁷

Natural History of Oxfordshire, Oxford, p. 47, mentions Greene's supposedly spotless later years.

⁷⁵ Mandelbrote, 'William Petty and Anne Greene: Medical and Political Reform in Commonwealth Oxford', p. 147

⁷⁶ Aubrey, p. 176.

⁷⁷ Noah Biggs, *Mataeotechnia medicinae: The vanity of the craft of physick; or, A new dispensatory ...* London, 1651, p. 9. Biggs's true identity has never been established; however, see Cook, Harold J. (1986), *The Decline of the Old Medical Regime in Stuart London*, Ithaca

For Biggs dissecting led not to new medical knowledge but to new deaths:

For there is nothing more hard, more inhumane and full of Cruelty, among all *humane Arts*, through so many ages undertaken and usurp'd then that art, which by a concentrick subscription doth make new experiments by the deaths of men where the Earth covers the vices, the errors & frauds of its professors ...⁷⁸

The London physician Gideon Harvey (no relation to William) wrote a savage satire of the monopoly of the College of Physicians in 1683 entitled *The Conclave of Physicians, Detecting their Intrigues, Frauds, and Plots, Against their Patients*. In it he compared anatomy to the practice of cannibalism.⁷⁹ Gideon Harvey referred to the College as the 'Conclave of Physicians to the Venetians', thus managing in one fell swoop to attack English physicians in particular and Roman Catholicism in general:

Their immolations are celebrated chiefly in the *Winter* upon Dogs and Cats by the younger fry, and sometimes upon humane bodies performed by the Hangman, their subservient Officer, which being conveyed to their *Chauncel*, the *Cardinals* in their turn fall hewing and slaying these Carcasses like *Cannibals*, to the intent all Spectators (to whom at such *Festivals* free egress and regress is granted) may behold them sitting in their *Ponticalibus*, and making a pretended narrower search into the parts of mans body, insinuating thereby to these gazers their incomparable Skill and Learning, not without a plain *Innuendo*, that they should send for them in time of Sickness ...⁸⁰

Gideon Harvey bitterly concluded that the illusion of anatomy being the road to medical progress was created to attract customers. Anatomists created public displays

and London: Cornell University Press. Cook explains that Biggs's work 'was addressed to the Parliament, which, Biggs said, had been directed by Cromwell to undertake the reform of all the professions', p. 122. Debus, Allen G. 'Paracelsian Medicine: Noah Biggs and the Problem of Medical Reform', in Debus, Allen G. (ed.) (1974), *Medicine in Seventeenth Century England*, Berkeley: University of California Press, pp. 33–48, describes Biggs as a devout Iatrochemist who believed that God creates and chooses true physicians not men, or universities.

⁷⁸ Biggs, p. 14.

⁷⁹ Gideon Harvey (1640?–1700?) was born in Holland, son of John and Elizabeth Harvey. He studied medicine, botany and anatomy at Leiden and Paris and probably obtained his MD and MB at a minor French university. He settled in London after the Restoration and in 1675 he became physician-in-ordinary to Charles II. In 1683 he published *The Conclave of Physicians*, supposedly set in Paris, attacking the College of Physicians. The same year Harvey was satirised in a thirty-page work, *Gideon's Fleece, or The Sieur de Frisk, an heroick Poem. Written on the cursory perusal of a late Book call'd The Conclave of Physicians by a Friend to the Muses*. Harvey was made physician of the Tower by William and Mary. Opinions of Gideon Harvey's works have been poor. Gideon Harvey rather than Christopher Merrett most likely wrote *The Accomplisht Physician, the Honest apothecary, and the skilful Chyrurgeon*, 1670.

⁸⁰ Harvey, Gideon (1683), *The Conclave of Physicians*, London, 'The Introduction', p. 8.

only on safe bodies, those dead and therefore incurable, rather than the living and in pain. No wonder they were so successful at marketing themselves.⁸¹

In *The Art of Curing Diseases by Expectation* (1669) he ultimately attacked the father of anatomy himself. Gideon Harvey claimed that William Harvey's anatomical proficiency did not guarantee his therapeutic skills; in fact, they guaranteed his lack of them. As evidence he gave details of a number of cases where William Harvey had wrongly diagnosed or wrongly prescribed:

... one Mr. Farwell, Barrister of the Temple, was Patient and Complainant of a painful disease in his belly ... Dr. Harvey ingrossed to himself the speaking part (a noisy 'Consult' of doctors were present) by reason of his extraordinary claim to Anatomy ... after a long contrectation of all the abdomen, did very magisterially and positively assert all his symptoms to arise from an Aneurism of an artery, and therefore incurable, as being too remote to come at, wherein all, except Dr. Bates, very readily concur'd, though it was a most absurd offer in opinion, as I ever yet heard.⁸²

Gideon Harvey concluded that Harvey's practical mismanagement of cases stemmed from hubris based upon his knowledge of vivisectioning animals:⁸³

No doubt but Dr. Harvey in Anatomy, and happiness of theoretic discoveries might justly pretend the precedency of all his contemporaries; and others before and since have also arrived to a great proficiency in cat and dog-cutting, also calf-head and sheeps-pluck dissecting; yet few of 'em when concerne in practice, were gifted with sagacity to know diseases when offered to their view, much less capable of curing them; in which curative particular the thinking Physician has the advantage, though the prating Physician by his pretended Anatomy ingrosses the opinion of mankind.⁸⁴

For Noah Biggs and Gideon Harvey, anatomy was a 'prating art' much like quackery where practitioners dazzled the public with sleight of hand and empty rhetoric. Yet there was also a more serious accusation concerning the fundamental inhumanity of any physician who has learned to 'do no harm' to his patients through long training in dissection and vivisection.

Everyone agreed that William Harvey was an excellent anatomist but that is as far as the agreement appears to have gone. He never lost an opportunity to dissect and bemoaned when none presented itself:

81 For more on Gideon Harvey and other critics of William Harvey's discovery of the circulation of the blood, see Frank, 'The Image of Harvey in Commonwealth and Restoration England', in *William Harvey and His Age*, pp. 103–43, especially pp.132–3.

82 Harvey, *The Conclave*, p. 17.

83 *Ibid.*, p. 180.

84 *Memorials of Harvey*, Aveling, J.H. (ed.) (1875), London: J. & A. Churchill, p. 17. The quotation is taken from Gideon Harvey (1689), *The Art of Curing Diseases by Expectation*, London, Chapter XXII.

... I can only complayne, that by the waye we could scarce see a dogg crow kite Raven or any bird, or any thinge to anatomise only sum few miserable people the reliques of the war & the plague where famine had made anatomies before I came.⁸⁵

Harvey expressed himself as a medical man by using the language of a dissector and vivisector. A poor laundress came to see him with a prolapsed uterus:⁸⁶

... as large as a Bulls Cod, dangling between her leggs: so that I suspected that, not onely the sheath, but that the womb it selfe was now inverted, or else that she was diseased with a Uterine hernia, or Rupture. It grew at last bigger than a mans head, being then a hard tumour, and hanging downe to her knees did much pain her, so that she could not goe (but upon all foure) and breaking just in the bottom of it, it did effund a moisture (as if it had been an Ulcer) and blood with it.⁸⁷

He collected specimens from the living and the dead, be they family members or patients, and exhibited them to his friends:

But the following night, an Infant perfectly shaped, of a span long, was cast out of that Tumour, but it was dead; and the next morning thay brought it to me; which having embowelled, I kept swimming in cold water without corruption for some moneths time, shewing it to many of my friends (as a miraculous spectacle.)⁸⁸

Harvey remembered what he saw and tried to forget what he smelt:

WH I saw it [the bladder] ulcerated in lues venerea through the whole internal region for years, the kidney intact; the thick, fleshy bladder, as a matrix for it, internally *like vnshorne velvet livid* gangrenous with fetid, disturbed and purulent urines.⁸⁹

He reminded his students and colleagues that not only was anatomy fascinating, it also led to medical progress. What was seen could be cured:

85 Harvey was so moved by the sight of such misery and desolation that he ended his letter with 'It is time to leave fighting when there is nothing to eat' Letter, of probably 1631, from Harvey to Viscount Dorchester, Principal Secretary to Charles I. Harvey probably travelled to France, Italy and Spain with the Duke of Lenox from 1631–32. Aveling, p. 8. Keynes, *Life*, speculates that the undated letter was written in 1630 to Dorchester, p. 193.

86 'One cannot overestimate the degree to which the uterus is not only called the "Sink or Common-Shoar, whereunto the rest of the parts of the Body disburden themselves" but is likewise the repository for most explanations of pathology advanced by medicine about women.' Quoting Lazare Rivière or Riverius, (1672), *The Practice of Physick*, comp. and trans., Nicolas Culpeper, Abdiah Cole, and William Rowland, London, p. 413.

87 Harvey, William (1653), *Anatomical Exercitations Concerning the Generation of Living Creatures, to which are added particular Discourses, of Births, and of Conceptions, etc.*, London, p. 493.

88 *Idem*.

89 Harvey, *Lectures*, p. 140.

I WH saw a prolapsed uterus and cured it.⁹⁰

He antagonized non-anatomically minded medical men by condemning their reliance on rhetoric rather than taking up the knife and performing the nasty yet necessary work of dissection:

Frivolous and unexperienced persons do scurvily strive to overthrow by logical and far-fetch'd arguments, or to establish such things as are meerly to be confirm'd by Anatomical dissection, and ocular testimony. It behoves him, who ever is desirous to learn, to see any thing which is in question, if it be obvious to sense or sight, whether it be so or no, or else be bound to believe those that have made tryall, for by no other clearer or more evident certainty can he learn or be taught.⁹¹

The emotions elicited, repressed and expressed, during his student days at the University of Padua and later in his career as a physician to kings, shaped William Harvey. In turn he modelled the ideal anatomist that his followers sought to copy and his detractors to ridicule. He gave his admirers a certain image of the anatomist to emulate: self-possessed, hard-working, voracious when it came to seeking out opportunities to open bodies and passionate about the veracity of his findings. Harvey may not have struggled much with achieving dispassion in the face of the more revolting aspects of his art, but this was not necessarily the case for those who came after him.

90 *Idem*. This may have been the poor laundress's uterus.

91 Harvey, William (1995), *The Anatomical Exercises: De Motu Cordis and De Circulatione Sanguinis in English Translation*, ed. Keynes, Geoffrey, New York: Dover Publications, p. 176. The quote is from 'Another Exercitation' in *De Circulatione Sanguinis* to Jean Riolan the Son where Harvey is refuting Riolan's objections to the circulation of the blood. Riolan was Professor of Anatomy at the University of Paris. The two essays to Riolan were published in Latin in 1649 and translated anonymously into English and published by Richard Lowndes in 1653 and 1673.