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Anita Guerrini, *The Courtiers' Anatomists': Animals and Humans in Louis XIV's Paris.* Chicago and London: Chicago University Press, 2015. xiv + 344 pp. Figures, notes, bibliography, and index. $35.00 U.S. (cl). ISBN 13: 978-0-226-24766-3.

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The title of Anita Guerrini's *The Courtiers' Anatomists* comes from a phrase by Bernard Le Bovier de Fontenelle, who referred to Joseph-Guichard Duverney (1648-1730) as "l'anatomiste des courtisans." Duverney's public anatomy lessons at the King's Garden (Jardin du roi) drew packed crowds of medical students from Paris and throughout Europe, as well as a select public of aristocrats and bourgeois from the court of Louis XIV, and curious onlookers from the streets of Paris. According to Fontenelle, the Versailles elite, including the Dauphin himself, attended anatomical demonstrations by Duverney. "I remember having seen members of the *beau monde* carrying with them dried specimens prepared by him [Duverney], just to have the pleasure of showing them in social gatherings."[1] *The Courtiers' Anatomists* examines in detail the dissemination of anatomical knowledge as part of medical education and natural history, but also for philosophical and moral reasons. As Nicolas Habicot wrote in an anatomical textbook, repeating a recurrent humanist motif, dissection of the body was "useful and necessary to those who wish to have perfect knowledge of themselves" (p. 38).

Key moments in this well-documented and carefully argued interdisciplinary study are the foundation of the Paris Academy of Sciences by Jean-Baptiste Colbert in 1666 and the reorganization of the teaching of anatomy at the King's Garden, also overseen by Colbert, between 1671 and 1673. At the origin of the Paris Academy, Louis XIV's Controller-General of Finances named four anatomists. The first was Claude Perrault (1613-88), the older brother of Charles Perrault (1628-1703), author of the Mother Goose fairy tales. A truly Renaissance man, the older Perrault trained as a doctor of medicine at the Paris Faculty of Medicine, but was also an accomplished architect, having designed the colonnade of the Louvre and the Paris Observatory. Although a student and member of the Faculty of Medicine, where the theories of Galen and Aristotle held sway, Claude Perrault became an "ardent mechanist and supporter of William Harvey and Jean Pecquet" (p. 27). As chief of the *physique* section of the Academy, Perrault "supervised dissections, reported on those that took place outside the *bibliothèque*, and often read to the *compagnie* for their approbation the individual descriptions—many of which he wrote—that later became the *Mémoires pour server à l'histoire des animaux*" (p. 136). The second anatomist was Marin Cureau de la Chambre (1596-1669), a student of the rival Montpellier school of medicine, best known as a poet and author of philosophical treatises on the passions and the souls of animals. The third was Louis Gayant (d. 1673), a surgeon trained at the Saint-Côme faculty in Paris, and the fourth was Jean Pecquet (1622-74), like Perrault a member of the Faculty of Medicine, who had already distinguished himself as the discoverer of the thoracic duct, which helped disprove the Galenic doctrine that blood was formed in the liver.

Chapter one, "Anatomists and Courtiers," and chapter two, "The Anatomical Origins of the Paris Academy of Sciences," provide a detailed account of the various settings for dissections in Paris: the

Hotel-Dieu hospital, where autopsies were frequently performed to determine the cause of death; the Faculty of Medicine, where the teaching of anatomy "continued to follow an archaic model, … illustrating what was already known rather than seeking new knowledge" (p. 26); and the college of Saint-Côme, where both surgeons and barber-surgeons were trained. A digitally enhanced map of Paris in 1676 and a Turgot map from 1739, both carefully labeled, allow readers to see clearly where the various hospitals, faculties, and dissecting amphitheaters were located, as well as the cemeteries and scaffolds that provided the much needed bodies for the growing number of dissections. Guerrini describes in vivid detail several macabre scenes from the trade in human bodies, such as grave-robbers in the Saints-Innocents cemetery: "Shadows from their torches made the *danse macabre* carved into the wall of one of the bone-houses, the *charniers*, seem to move" (p. 17). As for animals, we learn that the Academy "employed a man to 'find' cats and dogs" (p. 19).

What emerges from this detailed history of anatomy is the progressive triumph of William Harvey's theories of circulation and the slow undoing of many errors in anatomy and physiology, as Galenic and Aristotelean explanations of the body gave way to mechanistic and chemical models of biological processes. A central thesis of this book is that dissection changed from being a static description of the body based on the examination of dead bodies, to an experimental and demonstrative science. "Fabrici had argued that *historia* in itself could *not* lead to causal knowledge—to natural philosophy or *scientia*—but Harvey asserted that the description of particulars *could* lead to true knowledge with the discovery of causes" (p. 64, my emphasis).

The new exploratory and demonstrative examination of physiological processes was carried out on living and vivisected animals, most notably in experiments related to the air pump, blood transfusion, and the lacteal veins. Gaspare Aselli had discovered the lacteals in 1622 and believed that the milky chyle found in the veins contributed to the fabrication of blood, which, according to Galenic theory, took place in the liver. Jean Pecquet disproved this theory by demonstrating that chyle in the lacteals flowed into the *cisterna chyli*, near the kidneys, and from there through the thoracic duct and into the bloodstream via the subclavian vein. Pecquet made his discoveries, which he later demonstrated in public, by dramatically cutting open the thorax of a living dog, removing the heart, and observing chyle flowing into the subclavian vein, "a milkie liquor, casting itself out by intermission" (p. 78). Pierre Dionis (1643-1718), a teacher of anatomy at the King's Garden, repeated Pecquet's demonstration of the lacteal veins on a vivisected dog and followed it up with a human analog: "Knowing that a counterfeiter was going to be executed, Dionis sent him food about four hours before the execution. He waited at the scaffold with a coach and whisked the body off to his house. When he opened the corpse, he found the lacteal veins full of chyle 'which convinced me that this was distributed in man in the same way as I had seen in several animals'" (p. 210).

Chapters three and four, "The Animal Projects of the Paris Academy of Sciences" and "The *Histoire des animaux*," focus on dissections of animals conducted in the King's Library (mostly of animals that died in captivity at the Versailles Menagerie) and the published reports that ensued, accompanied by striking anatomical illustrations. In 1667, the first account appeared, a twenty-seven page-long quarto pamphlet recounting the dissection of a thresher shark and a lion. Two years later a volume reporting dissections of a chameleon, a beaver, a camel, a bear, and a gazelle appeared. In 1671 a lavish folio edition of only two hundred copies was published, containing descriptions and illustrations of thirteen different species. "The size and accuracy of the images far surpassed those of any predecessors in natural history, natural philosophy, or comparative anatomy … the volumes provided public evidence of Louis's *gloire* in several ways, as a work of art, a display of his power, an imaginarium of his menageries, and a contribution to the new science" (p. 150). For the first time in history, animals were the subject of anatomical experimentation and illustration in their own right, not as a supplement to human anatomy. The *Histoire des animaux* was to natural history and veterinary science what Vesalius's *De humani corporis fabrica* was to human anatomy and medicine.

In addition to a detailed and nuanced history of early modern French anatomy and medicine, Guerrini's study offers an authoritative exposé of the wider cultural and esthetic significance of anatomy and dissection. Early chapters profile in detail the private academies, salons, and correspondence networks where anatomical research was discussed and sponsored by Théophraste Renaudot, Jacques-Auguste De Thou, Pierre Michon Bourdelot, Henri-Louis Habert de Montmor, Marin Mersenne, Nicolas Fabri de Peiresc, and others. Later chapters describe the "top down" intervention of Louis and his ministers in the foundation of Académie Française, the King's Garden, and the Academy of Sciences.

Chapter six, "The Courtiers' Anatomist: Duverney at the Jardin du roi," follows up on Fontenelle's remark that Duverney was an "orator" whose public anatomy lessons were models of "clarity, accuracy, and order," and delves deeply into debates about rhetoric and truth during the classical age. As proponents of the new science, Perrault and Duverney found themselves allied with Charles Perrault and the Moderns. Guerrini draws some very interesting and original parallels between the novel and the opera—new genres preferred by the moderns—and anatomical demonstrations: "Despite the anatomist's rational exposition of his subject, public anatomical demonstration had more in common with opera than with Racine's tragedies. A witness to the dismemberment of a human body, as well as the dissection of living and dead animals, might experience horror rather than the healthy catharsis of classical drama" (p. 222).

Another suggestive parallel is made between Charles Perrault's fairy tales and animal dissection. Both *contes de fées* and dissections are based on "the interchangeability of human and animal, a literal or potential metamorphosis …. Cruelty, or the idea of it, was central to both genres" (pp. 224, 225). For Guerrini, Duverney's cold acceptance of the terrible suffering of animals during experiments was the price to be paid for scientific truth. This suffering is analogous to the ubiquity of pain and suffering in fairy tales. In both instances, "Cruelty made the moral happen; pain led to truth" (p. 225). This formula is perhaps too simple and didactic. Duverney's indifference to animal suffering may be related as much to his mechanistic view of animals as to any moral position about the necessity or merit of pain. There is also a difference between natural suffering resulting from the appetites and drives of animals and the deliberate, rationalized pain inflicted by scientists. The author's parallel between human and animal pain, and the merging or inversion of human and animal identity in the moment of pain, is a profound observation worthy of continued reflection. Such a comparison brings to mind Gilles Deleuze's poetic formulation in his essay on the painter Francis Bacon: "L'homme qui souffre est une bête; la bête qui souffre est un homme." ("The man who suffers is a beast; the beast who suffers is a man").[2]

The Courtiers' Anatommists is a model of rigor and exactitude. As a work of scientific history, it will be extremely useful to anyone interested in the history of medicine and natural history in early modern France. Like one of the main characters of her story, Joseph-Guichard Duverney, Anita Guerrini has succeeded in making the history of anatomy a philosophically profound and passionate inquiry into the human condition. This study joins recent works by Andrew Curran, Katharine Park, Holly Tucker, and others in exploring the many layers of meaning emerging from the practices of anatomy following the epochal work of Vesalius.[3] In the same way that Curran's book does important genealogical work concerning the intersection of anatomy and racism, *The Courtiers' Anatomists* also forces us to confront animal abuse and suffering in the name of science, which, like slavery, became widespread during the seventeenth century, but, unlike the latter, continues in many forms today.

NOTES

[1] Bernard Le Bovier de Fontenelle, "Eloge de Monsieur Du Verney," in Paul Janet, ed., *Fontenelle: Choix d'éloges* (Paris: Delagrave, 1888) p. 341.

[2] Gilles Deleuze, *Francis Bacon*: *Logique de la sensation* (Paris: Seuil, 2002), p. 30.

[3] See Andrew Curran, *The Anatomy of Blackness: Science and Slavery in an Age of Enlightenment* (Baltimore, Md.: Johns Hopkins University Press, 2011); Martin Kemp, ed., *Spectacular Bodies: The Art and Science of the Human Body from Leonardo to Now* (Berkeley and Los Angeles: University of California Press, 2000); Katharine Park, *Secrets of Women: Gender, Generation, and the Origins of Human Dissection* (New York: Zone Books, 2010); Holly Tucker, *Blood Work: A Tale of Medicine and Murder in the Scientific Revolution* (New York: W. W. Norton, 2011).

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