BOOK REVIEWS

Ian and Jenifer Glynn. *The Life and Death of Smallpox* (Cambridge: Profile, 2004), pp. 288 £18.00 ISBN 1 86197 608 9 (New York: Cambridge University Press, 2004), pp. x + 278 £20.00 $25.00 (hardcover) ISBN 0 52184 542 4.

This is the biography of both a virus and the disease it *caused*. To be able—if only tentatively—to refer to smallpox in the past tense is an exhilarating experience. For three millennia this virus has had the most profound effect on human health and history. The authors come well qualified to this biography: Ian Glynn is professor emeritus of physiology at Cambridge and Jenifer Glynn is a Cambridge historian. How fortunate it is to have the combined talents of these two authors brought to the task of telling the story of the victory of humanity over what Macaulay called "the most terrible of all the ministers of death."

The book provides evidence of smallpox as both epidemic and personal affliction in antiquity, yet it is presented with appropriate scholarly caution. The pharaoh Ramses V may well have died from the disease in the twelfth century BCE. Lesions on his mummified body and peculiar delays in the process of his mummification suggest it, but without electron-microscopic evidence the issue remains unresolved. Thucydides' description of the plague that ravaged Athens during the Peloponnesian War beginning in 430 BCE is, again, suggestive, but it is inconclusive that smallpox was the responsible agent. There is little doubt, however, about the subsequent appearance of smallpox in epidemic form in first-century China and second-century Rome and as a recurring scourge throughout Europe and Asia during the Middle Ages.

There are two particularly interesting analyses of the effects of the disease on human history. In the sixth century, Christian Abyssinians besieged Mecca with the aim of eliminating the idol worshippers of the city. They were unsuccessful in large part because they fell victim to smallpox. If they had succeeded, Muhammad would probably have grown up Christian and would not have had paganism to deal with. The authors also revisit the influence of infectious diseases upon the European conquest of the New World. They trace smallpox from Cuba to Mexico as Cortez made his transit through the Caribbean. Not only was a susceptible native Mexican population destroyed, but the resistance of the Spaniards to the disease seemed to suggest that they had divine protection and sanction.

The attempts over the centuries to avoid or to treat the disease, to describe or explain it, are presented as a veritable study of the history of medicine. The text is well-written, clear, and engaging, and the book furnishes abundant illustrations. Historical figures from Galen, Eusebius, Gregory of Tours, the Islamic and Asian physicians and scholars up to Sydenham at the end of the seventeenth century are given their due. Both the chronology and the contextualization of the disease are effectively presented.

Edward Jenner and others responsible for the breakthrough leading from inoculation to the vastly more effective protection through vaccination are given a detailed treatment. Smallpox, which had now become a preventable

disease and an avoidable epidemic, had become a public health concern, for unless vaccination was universal and compulsory, a risk remained, especially to children under five. There was resistance to mass, compulsory vaccination on the basis that it was an infringement of individual rights. In some countries the imposition of fines and penalties on those who failed to become vaccinated worked against the intent of the public health effort. Large populations of the unvaccinated contributed to epidemics throughout the nineteenth century.

Up until the 1950s more than a million deaths from smallpox occurred in India every year. Clearly, the endemic aspects of the disease needed to be addressed. A massive world-wide effort to eradicate the virus began in the 1960s, and by 1979 the disease had vanished from the face of the earth.

However, two official repositories preserve strains of the virus—the US Centers for Disease Control in Atlanta and the Ivanovsky Institute of Virology in Moscow. They are preserved for research purposes and as a potential resource if unofficial stores of the virus are resurrected as a weapon. The conclusion of this book gives a chilling description of the possibilities of genetic manipulation of the virus, the combination of smallpox virus with other viruses such as Ebola and equine encephalitis, and research on delivery systems by nations for purposes of warfare or by terrorists. Our old enemy is confined for the moment, but it is too soon to celebrate.

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Majid Fakhry. *Averroes (Ibn Rushd): His Life, Works and Influence* (Oxford: Oneworld Publications, 2001), pp. xvi+187 £14.95 $23.95 (paper) ISBN 1 85168 269 4.

Averroes: His Life, Works and Influence, is a readable, informative, and engaging introduction to the philosophy and theology of Averroes. It is well written, simple, clear, and accessible, and suitable for the student and laymen. As in his other writings, Fakhry here excels in his summarizing of philosophical ideas and arguments. He sets the arguments in their appropriate philosophical context, and enriches them with contemporary debates and discussions.

When he turns to history and reception, on the other hand, Fakhry's work is often imprecise and unreliable: It contains several factual errors, which could have been avoided had he consulted updated research on relevant subjects. Following a brief summary of the contents, the present review will focus on these factual errors and bibliographical omissions. It should be emphasized, however, that these do not lessen the book's value as a clear and straightforward first encounter with the great sage from Cordoba.

Averroes: His Life, Works and Influence contains an introduction, 11 chapters, and a conclusion. The introduction presents a brief history of general and Islamic philosophy, and places Averroes within it. Chapter 1 recounts Averroes' biography, and lists and describes his writings. Chapters 2 and 3 establish the polemical framework of Averroes' work: His criticism of Avicenna and Avicenna's Neoplatonized Aristotelianism, and his response to al-Ghazali and al-Ghazali's Asharite Kalam. Many of the main subjects discussed in later chapters are in-

troduced here: emanation, the power of the active intellect, essence and existence, the faculties of the soul, creation, divine knowledge, resurrection, and natural causality.

The main philosophical and theological discussion is found in chapters 4 through 9. Here Fakhry summarizes Averroes' ideas about categories, conceptualization and assent; introduces his physics and cosmology; discusses his psychology and theory of conjunction; describes his theory of eternal creation and prophecy; summarizes his ethical ideas and political philosophy; and briefly describes his main legal work and medical summa. Throughout the examination of philosophical and theological ideas and doctrines, the emphasis is on the unity of Averroes' thought and his closeness to Aristotle. Inconsistencies within the writings of Averroes are occasionally noted, but never discussed.

The final two chapters and conclusion then focus on reception—in Christian Europe, by Thomas Aquinas, and in the Arabic world, in medieval and modern times. Here the contrast between Averroes' reception in East and West is quite striking. While most of Averroes' works were translated into Latin or Hebrew and studied assiduously in Christian Europe, they were ignored, dismissed, or sharply criticized in the Islamic world. Even in modern times, Fakhry notes, when Averroes has experienced somewhat of a revival in the Arabic world, he has been recognized more for the cultural ideals that he represents than his actual philosophy. Thus, for example, he has been singled out as a model of secularism, enlightenment, and even Marxism, or, conversely, castigated for his irreligion—for giving priority to the "foreign sciences" over scripture and tradition.

Fakhry's discussion throughout is presented by way of summarizing original texts. There are infrequent references to secondary sources or translations, and the secondary sources that are used are outdated. This in itself is not problematic; there is certainly no need to overburden the beginning student with bibliography. But in several cases, consulting recent scholarship could have helped the author avoid mistakes. The reference to recent scholarship could also direct the reader to more detailed studies of one subject or another, and could help moderate Fakhry's initial judgment that "there has been very little attention to Averroes' work in English" (vii).

A few examples can illustrate these points: Averroes wrote a commentary not on the *Metaphysics* of Nicolaus of Damascus (3) but on the *De plantis*, which has recently been reconstructed from Hebrew sources (see *Nicolaus Damascenus De Plantis: Five Translations*, 1989). The short treatise entitled "That which the peripatetics and the theologians of our religion believe with respect to the manner of the world's existence is close in meaning" may be lost in the original Arabic (as Fakhry notes, 4), but the Hebrew version, which was published already in the nineteenth century, is available in an English translation by Barry Kogan (in *Islamic Theology and Philosophy*, ed. M. Marmura, 1984). Fakhry's apologetic remarks about Averroes' logical classification of the *Poetics* (41-42) seem very strange indeed after the work of Deborah Black, which has shown the interesting implications of this "context" (*Logic and Aristotle's Rhetoric and Poetics in Medieval Arabic Philosophy*, 1990). In discussion of the soul, Fakhry cites Averroes' treatise on conjunction (71), which, as shown by Charles Burnett, was written not by Averroes but by Averroes' son, Abdallah (see *Archives d'histoire doctrinale et littéraire du moyen âge* 67, 2000, 295-335). The discussion of the soul

in general, moreover, could have benefited from Herbert Davidson's 1992 book, *Alfarabi, Avicenna, & Averroes on Intellect*, which is one of the standard works on the subject. Finally, when discussing Aquinas on creation, Fakhry refers to Maimonides' reference to al-Farabi in *Guide of the Perplexed* 2:15, and suggests that al-Farabi's *Harmonization* is the proximate source (159). Although this might be Maimonides' direct source, he might also have been drawing from al-Farabi's summary of the *Topics*, as was proposed in 1965 by G. Vajda (see *Journal asiatique* 253, 43-50).

The failure to consult recent scholarship is especially problematic in chapter 10, which is based almost entirely on Renan's 1852 monograph, *Averroès et l'averroïsme*. In fact, almost everything written on 132-133 is incorrect. A few examples from the Hebrew tradition will suffice to substantiate this claim: The translation of Averroes into Hebrew was not "started by the Jews of Spain" but by the Jews of Southern France (about which see, in general, Gad Freudenthal, in *Revue des études juives* 152 (1993), 29-136, and M. Zonta, *La filosofia antica nel Medioevo ebraico: Le traduzioni ebraiche medievali dei testi filosofici antichi*, 1996). "Samuel Ben Tibbon" did not base "his *Opinions of the Philosophers* almost exclusively on Averroes." This was the work of Shem Tov Falaquera, whose use of Averroes has been clearly documented by Steven Harvey (see *The Medieval Hebrew Encyclopedias of Science and Philosophy*, 2000). What Samuel Ibn Tibbon did do was produce the first Hebrew translation of a work by Averroes. He translated three treatises on conjunction, two by Averroes, and one by Averroes' son, Abdallah (see again Burnett, as well as C. Steel and M. Geoffroy, ed. and trans., *Averroès, La béatitude de l'âme*, 2001). Jacob Anatoli, not "Joseph Anatoli," rendered Averroes' middle commentary on the organon into Hebrew (through *Posterior Analytics* only; the *Isagoge* and *Categories* have been edited and translated by H. Davidson); Anatoli also translated Averroes' abridgement of the Almagest, which is being edited by Julian Lay (see *Arabic sciences and philosophy* 6, 1996, pp. 23-62). Qalonymus b. Qalonymus of Arles, who translated several works of Averroes into Hebrew in the fourteenth century, is not the same Calo Calonymus who translated the *Incoherence* into Latin in the sixteenth century. And while Todros Todrosi did render the Middle *Rhetoric* and *Poetics*, he is not responsible for the Middle *Topics*, *Sophistical Refutations*, or *Ethics*; these are the work of Qalonymus b. Qalonymus and Samuel b. Judah of Marseilles (for the commentary on the *Ethics*, see the edition by Lawrence Berman, published in 1999).

One final point is worth mentioning as well. In this book, as in his previous writings, Fakhry refers to al-Farabi and Avicenna as "Muslim Neoplatonists." This classification they deserve, Fakhry maintains, primarily because of their theory of emanation and doctrine of the active intellect, both of which were influenced by Plotinus and Proclus (through the pseudepigraphical "Theology of Aristotle" and "Book of Causes"). It might be added that they were influenced by late antique Neoplatonism with respect to method, literary form, and classification of the sciences, as well. What should be remembered, however, is that al-Farabi, Avicenna, and others considered themselves "philosophers," "peripatetics," and "followers of the sect of Aristotle," and frequently argued against Plato and earlier Neoplatonists. To complicate matters, their terrestrial physics and logic were mainly Aristotelian, with Stoic influences; their astronomy was mainly Ptolemaic; and their conception of celestial influence on the sublunar

world was conditioned by astrology. Even if they were "Neoplatonists," therefore, it should be made clear that Neoplatonic ideas were only part of a complex philosophical tradition. In other words, they were much closer to Ammonius, Simplicius, and Philoponus, than to Plotinus, Iamblichus, and Proclus.

To conclude: Despite the factual errors in Fakhry's book and his controversial classification of medieval Islamic philosophers as "Neoplatonists," *Averroes: His Life, Works and Influence* is a simple, clear, readable and useful introduction to the philosophy and theology of Averroes.

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Londa Schiebinger. *Plants and Empire: Colonial Bioprospecting in the Atlantic World* (Cambridge, Mass.: Harvard University Press, 2004), pp. 306 $39.95 (cloth) ISBN 0 674 01487 1.

Despite its awkward and somewhat misleading title, Londa Schiebinger's *Plants and Empire* is a compelling study of botany, gender and medicine in the long eighteenth century. Focusing on the *flos pavonis*, or peacock flower, Schiebinger examines two distinct but interrelated themes: the imperial aims of botany; and the ways in which certain kinds of information, notably the abortifacient qualities of certain plants, did not make their way into the body of knowledge at the imperial center. Using the nontransfer of the abortifacient properties of the peacock flower, the author develops the study of "culturally induced ignorance," a field she refers to as agnotology.

The first theme of *Plants and Empire*, that of botany's imperial connections, is rigorously researched and documented, and the conclusions that Schiebinger is able to draw are firmly grounded in an understanding of the many facets of colonial botany. The first two chapters of the work explore the colonial enterprise: who were the botanists in the Caribbean area; what were their goals and methodologies; and how did they export information back to the metropolis. Schiebinger shows how botany not only afforded colonial powers a better understanding of the colonized lands but also the lucrative knowledge of new medicines, foods and technologies. Even more importantly, botanists hoped to learn how to bring these plants back to Europe and successfully cultivate them there.

Likewise chapter five treats the theme of botany and empire and addresses the issue of linguistic imperialism. In this chapter the author shows how Europeans controlled the entry of colonial plants into the mainstream of European culture first and foremost by giving them European names, usually names derived from the botanist who first categorized them or from the names of important members of society. This had the effect of divorcing species from their native cultures and also from information about their uses inherent in their indigenous names. Schiebinger illustrates how naming was (and is) an arbitrary and culturally determined practice and, in the case of plants from the European colonies, it was also an imperialistic practice.

The middle chapters and conclusion of the book develop Schiebinger's theme

of agnotology in relation to the transfer of information on abortifacients. Chapter three begins the discussion of the state of abortive techniques both in the New World and in the Old. She shows how abortion was practiced in the old world to control fertility with the help of several well known abortifacient plants. Although medical doctors discouraged the use of abortifacients, they often prescribed emmenagogues to cause menstruation. Since a woman was not officially pregnant until she felt the child move within her, usually between 18 and 22 weeks of pregnancy, doctors who prescribed emmenagogues could effectively terminate undiagnosed pregnancies. Women of the upper classes could call upon doctors and midwives to help them end early term unwanted pregnancy. Lower class women could avail themselves of common knowledge about the effectiveness of certain herbs in inducing abortion. In the Caribbean, slaves also practiced abortion, most often to save their unborn children from the horrors of slavery. Slave women were considered the sexual property of their masters and as such had little say in their own sexual lives. As a result, controlling their fertility was perhaps their only way of exerting control over their bodies. African and Amerindian knowledge of plants and abortive practices combined to allow slave women some choice as to whether they carried a pregnancy to term or not. While abortion was not sanctioned by European society, neither was it an unknown or uncommon event

In chapter four Schiebinger arrives at one of the primary points of her discussion of agnotology: while we are accustomed to studying the transfer of knowledge from one group or area to another, at times it is just as valuable to study the non-transfer of knowledge and examine the causes and consequences of this absence. To prove her point Schiebinger examines testing methods during the eighteenth century and how those methods impacted the dissemination of knowledge of the peacock flower's abortifacient properties. The author reiterates some of what she proved in her previous works *The Mind Has No Sex?* and *Nature's Body* when she shows how there was a shift in the eighteenth century toward the medicalization of pregnancy and the removal of women's health care from the hands of other women. In the case of abortion, this is no different. As male doctors assumed more control over women's bodies, they began to censure more severely abortive practices and to limit the dissemination of such knowledge.

Schiebinger goes on to show that not a single abortifacient plant from the colonies was introduced to Europe as such. Many were imported as decorative plants for gardens or for other kinds of medical use but none came accompanied by the knowledge that they could be used to terminate pregnancy. Many were introduced as emmenagogues, and while one can argue that emmenagogue is just a code word for abortion, many doctors made a careful distinction between the two. Emmenagogues were actively tested on women, but known abortifacients were shunned and deliberately ignored. Schiebinger demonstrates that many doctors deliberately closed their eyes to information regarding abortifacients and their safe use, and thus effectively prohibited most European women from attaining safe abortions.

Interestingly Schiebinger has managed to write an entire book without ever directly entering into the heated debate over the ethicality of abortion and a woman's right to choose whether to continue a pregnancy or not. Instead she focuses on the appropriation of women's bodies and their ability to reproduce.

Both European women and their non-European counterparts in the Caribbean suffered under the societal obligation to reproduce either for the good of the state or for the benefit of their masters. Making more citizens or more slaves was the primary obligation of every woman. Schiebinger concludes that the suppression of the knowledge of abortifacients was really a power play to take control of women's fertility and turn it to the benefit of men. As women in the eighteenth century lost control over their reproductive rights they also lost their ability to have lives that centered on anything other than motherhood.

In spite of its rather loose structure and multiple themes, *Plants and Empire* is a provocative book that touches on themes important to anyone interested in imperialism, gender, medicine, or reproductive rights. Schiebinger's development of agnotology adds another layer to the discussion of epistemology in the eighteenth century and will be of keen interests to historians and philosophers of this period. The research and conclusions drawn here are rigorous and interesting and will certainly encourage even more research in these areas.

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Eugenio Canone. *Il dorso e il grembo dell'eterno: Percorsi della filosofia di Giordano Bruno* (Pisa and Rome: Istituti Editoriali e Poligrafici Internazionali, 2003), pp. xii+256 €90.00 ISBN 88 8147 367 4.

The author is one of the most active interlocutors in Bruno studies today. He has organized numerous conferences and has edited several volumes in the field. Together with Germana Ernst, he edits the journal *Bruniana & Campanelliana*. He is based in Rome, where he works at the Lessico Intellettuale Europeo project affilitated to the University of Rome, La Sapienza. The same concern for philological precision that characterizes the Lessico's publications on key terms in neo-Latin philosophy infuses the volume under review.

This book is a collection of seven essays divided into two parts: the first on "Bruno's philosophy of nature and its ontological foundation," which incorporates the essays "A Dinner of Ashes," "The Boy and the Phoenix," "Bruno, Reader of Avveroës," and "The Terminology of Metaphysics," and the second on "The Mirror of the Soul," incorporating the essays "The Laws of the Soul," "A Profound Animal Night," and "The Soul in Trilogy." The title of Canone's collection draws on the richly metaphorical vocabulary of the Nolan philosopher. "Il Dorso"—meaning literally "the back" or "the spine"—refers to that which is subject to time. The back of a thing constitutes its circumference, for that exterior is exposed to what lies beyond, to the vicissitude of whatever is not itself. "Il Grembo"—literally "the womb" or "the lap"—marks the eternal, the center of a sphere that remains stationary even when the sphere is spinning. Back-to-back these metaphors express the paradoxical intersections of vicissitude and constancy, the many and the one, the infinite and the infinitesimal, which pervade Bruno's writing. Even as "the spine" and "the lap" tend towards the extremes of the periphery and the center that they symbolize they remain proximate in the human body, where they are but two sides of the same torso, bent.

If there is a singular theme that runs through this collection of essay, it is the theme of vicissitude. As the author himself puts it in his essay on "The Laws of the Soul," he is working on a problem set out by the likes of Felice Tocco, Rodolfo Mondolfo and Ludovico Limentani: "How is it possible that the same human individual who in the context of ontology—in the *De umbris*, the *De la causa*, and in other works by Bruno—is not considered as a being, but as an aspect or even a quality, comes then to be transformed in the *Spaccio* [*de la Bestia Trionfante*] and in the [*Eroici*] *Furori* into a free subject that, insofar as it is spirit and thanks to its inventive and intellectual faculties, is called a 'god of the earth,' a hero capable of an even more sublime elevation, towards an object 'final, ultimate, and most perfect'?" (167) It would be wrong to say that this tension is resolved, either by Bruno himself or by Canone on his behalf, because it in fact is the restlessness of being itself that perpetuates Acteon's hunt and the metamorphosis of desire into its object, spirit into accident. This perpetuity is the only guarantor of a creativity that mediates between ethics and ontology, between decision and the consequences of decision. As Canone concludes, "it is the law of vicissitude, then, that promulgates continual variation rather than continual repetition" (178).

Il dorso e il grembo will be of interest to readers of this journal who are concerned with the establishment of a diversity of approaches to the life sciences in early modernity. Canone's work thickens the description of pre-Cartesian phenomenology where spirit, *anima* in this case, is a nodal point that connects the range of vital functions (from vegetation and sensation, through imagination and intellection) with little or no reference to consciousness (21, 210). Canone is likewise careful to underscore the continuities between Bruno's work and developments in the new sciences of the sixteenth century (34-35, 37-38), so that in contrast to Frances Yates' hermetic Bruno, Canone's is a contributor to innovative discussions in natural philosophy. If the book possesses a shortcoming, it is the density of its style, which will render the work difficult for non-specialists.

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Yasmin Annabel Haskell. *Loyola's Bees. Ideology and Industry in Jesuit Latin Didactic Poetry* (Oxford: Published for The British Academy by Oxford University Press, 2003), pp. x+353 $74.00 (cloth) ISBN 0 19 726284 8.

Professor Haskell's book is as valuable a contribution to history of early modern science as it is to her home field of neo-classical literature. Her subject-matter, didactic ("scientific" or "philosophical") poetry, lies athwart what to modern eyes appears to be a great chasm—C.P. Snow's "two cultures." But in the hands of seventeenth- and eighteenth-century Jesuits, the genre was well suited to articulating their unitary cultural vision; a vision perhaps best captured in the notion of *scientia*, i.e., certain knowledge of man and nature leading to knowledge of god.

After briefly tracing the ancient Greek and Roman roots of didactic poetry and the Renaissance humanists' revival and emulation of such classical models

as Virgil (*Georgics*) and Lucretius (*De rerum natura*), Haskell comes to her central problem. Since nearly three-quarters of all Latin didactic poems written in the seventeenth and eighteenth centuries were composed by members of the Society of Jesus, she takes as her task "to account for the peculiar attractions the Latin didactic genre held for Jesuit poets" (3). She draws upon the notion of a distinctive "ideology" (or ethos) derived from the spiritual life and aspirations of Ignatius, codified in the Society's Constitutions, and institutionalized in the Jesuit system and style of education. (Her characterization of the last-mentioned is among the most concise, insightful, and cogent I have come across.) Jesuit pedagogy achieved a remarkable level of Latinity by employing "friendly" (but intense and almost continuous) competition that coupled public acclaim for diligence and accomplishment with public shame for laziness and apathy. Among Jesuit scholastics, the combination of competition, acclaim, and shared spiritual and pastoral goals produced bonds of friendship among local cohorts that upon occasion led to generational and regional fraternities of didactic poets. Their Latin poems not only reflected the high literary standards, competitive spirit, and religious aspirations of their training, they also embodied what Haskell sees as one of the defining characteristics of the Society; namely, the salvific power of noble labor.

Haskell devotes a chapter each to four "microtraditions" in Jesuit didactic poetry she has identified on the basis of region, period, and commonalities of style. In the chapter on "Jesuit Georgic in the Age of Louis XIV" (chap. 1), she focuses on René Rapin's *Horti* (Paris, 1665), a poetic celebration of the triumph of the moderns over the ancients in matters horticultural. In a pattern of analysis typical of all the chapters, she combines her knowledge of classical and Renaissance antecedents (such as Giovanni Pontano, Marco Girolamo Vida, Giordano Bruno) with her knowledge of Jesuit authors in order to communicate the sense of the poem, its context and its literary influence. What is especially valuable to non-classicists, however, is Haskell's ability to explicate the innumerable quotations, imitations, and allusions that interlace the genre. For those interested in the aesthetic of "wonder," Haskell's discussion of the "southern Italian baroque" microtradition (chap. 2) will be of particular interest. Here the locale is Naples with works chiefly from the Jesuit mathematician Niccolò Giannettasio, the chocolate-intoxicated Tommaso Strozzi, and Francesco Savastano. Returning to France (chap. 3), Haskell explores a collection of minor 'meteorological' poems published by François Oudin, *Poemata didascalica* (Paris, 1749). 'Meteorology' is taken in a broad Aristotelian sense, and so topics for poetic elucidation include everything from eclipses and auroras to volcanoes, magnetism, and metallurgy. Chapter 4, on "Scientific Poetry in Enlightenment Rome," marks the high point of Haskell's argument and perhaps best exemplifies the significance of the genre for historians of science. Among its central figures is Roger Boscovich, the most accomplished Jesuit scientist of the period, and so, not surprisingly, the scientific content of the Roman poets was highly technical and up-to-date. The intertextual, collegial, and "ideological" bonds among Roman authors of didactic poetry were especially strong and illustrate well Haskell's central thesis. The fifth chapter deviates from the analysis of mircotraditions and instead takes up a temporally and geographically heterogeneous collection of poems on "the arts of life," i.e., subjects touching on "human science" (nature of the soul, pedagogy, the senses) rather than the

natural sciences. In her conclusion, Haskell traces the roots of Jesuit didactic poetry to "an ethos of effort and emulation originating in the Jesuit classroom, and above all, [to] an engaged, optimistic, transformative attitude toward nature and culture" (313-314).

In fine, Haskell has given us an erudite, enlightening, and unique study of a body of literature historians of science have hitherto largely neglected.

Steven Harris

Wolfgang Lefèvre, Jürgen Renn and Urs Schoepflin, eds. *The Power of Images in Early Modern Science* (Basel: Birkhäuser Verlag, 2003), pp. ix+308, ills. €126,26 ISBN 3 7643 2434 1.

This collection of fifteen articles originated in a series of workshops, held in Berlin in 1997, that were geared towards the historical reconstruction of the role of images in early modern science. The collection includes articles that were first presented at the Berlin workshops and others that were invited for this book. The stated aim of the collection is to explore the role of images as mediators between (1) science and its cultural context, and (2) practical knowledge and its theoretical reflection in scientific theories. As a contribution to a general history of culture, this book is a welcome addition to the burgeoning body of literature dedicated to situating science in its social context. As a contribution to the historical epistemology of scientific knowledge, however, the collection falls somewhat short of the mark.

The book is divided into five sections. The first section, which includes five of the fifteen papers in the volume, explores the role of images as mediators between practical and theoretical knowledge, one of the two major themes of the book. The first of these papers, "The Challenging Images of Artillery …" by Jochen Büttner, Peter Damerow, Jürgen Renn, and Matthias Schemmel, mounts a striking critique of the thesis (associated most prominently with A. R. Hall's *Ballistics in the Seventeenth Century*, 1952), that the rise of classical mechanics was an intellectual achievement grounded in the creation of impetus theory in the fourteenth century. A new type of image, produced by theoreticians of ballistics, the authors contend, provided the foundation not only for the major achievements of Renaissance engineers but also of later classical mechanics. There can be no doubt that Galileo and Newton, among others, used ballistics as a test case for the development of the central concepts of the science of mechanics. It would not be unfair to say that modern science owes a substantial debt to Aristotle's flawed theory of projectiles. However, it seems questionable to insist that problems of ballistics, shaped by the experience of an epoch that placed a premium on projectiles and navigation, were somehow the incentive for the emergence of modern mathematical methods. The fact is that the very first step toward modern mathematical science, the idea of impetus, was taken well before artillery emerged in the late fifteenth century.

David McGee's "Ships, Science and the Three Traditions of Early Modern Design," identifies three broad approaches to design which, he contends, provide a more fruitful basis for investigating technology in the early modern

period than the catch-all expression 'craft.' The paper skillfully reveals the evolution of graphic representation and the opposition between three different traditions (craft, design, and architecture) he identifies. The difficulty with this paper is that it does not make contact with the theoretical pursuits that are said to be the topic for this first section of the book.

Paolo Galluzzi's "Art and Artifice in the Depiction of Renaissance Machines" is a marvelous study of the way that the earlier mechanical investigations of Leonardo da Vinci paved the way for his anatomical images, which appeared in first decade of the sixteenth century. The insight, the consequences of which are unexplored in this paper, is that the mechanical philosophy is but a philosophical representation of a view of nature shaped by the practical activities of artisans and engineers.

At the heart of "The Limits of Pictures …" by Wolfgang Lefèvre lies a very useful distinction between plans and pictures. With this distinction, the author advances the striking thesis that pictures are insufficient as a means of scientific reflection. That is to say, if one seeks to understand how the parts of a mechanical device or an organism are arranged in the most effective way for the function at hand, one needs plans and not pictures—one needs representations of the device itself and not representations of how the device may appear to a particular observer. It is regrettable that it is only in the final page of his article that Lefèvre turns to early modern science: "plans thus appear as an important means of intermediation between practical and theoretical mechanics—a point which without doubt deserves further investigation" (85).

The final entry in this section is Luisa M. Dolza's "Reframing the Language of Inventions: The First Theatre of Machines." The sole purpose of the theatre is not, as previously thought, the faithful pictorial reproduction of machines but also the illustration of more symbolic, deeper meanings. The paper places certain technological drawings in their cultural context, and, in this respect at least, is a success, but it is difficult to ascertain just how it contributes to the stated goals of the collection.

The second section consists of two papers that focus on iconography—, "Alchemical Iconography at the Dawn of the Modern Age …" by Anne-François Cannella and "The Invention of Atomist Iconography" by Christoph Lüthy. The article by Lüthy is a detailed and compelling historical account of the emergence of the iconography of atomist theory. Still, one is left to wonder why the author expresses astonishment that this iconography survived wholesale changes of theory. The answer seems obvious: these illustrations were never part of atomist theory in any meaningful way.

The third section features three articles on images and text in the life sciences. Alexandre Métraux contributes a welcome study of the character of the images in Leibniz's great geological work, the *Protogaea*. Allan Ellanius' "Notes on the Function of Early Zoological Imagery" examines images of Kingfishers, in Raphael and in scientific treatises, to sustain his claim that legendary material is an ingredient of the naturalism of seventeenth-century zoology. Brian W. Ogilvie's "Image and Text in Natural History, 1500-1700" discusses the ramification of a "curious phenomenon," which in fact has been noted by scholars in other scientific fields, namely, the disappearance of images from botanical books in the course of the seventeenth century (142). Images, Ogilvie notes, play a vital role during the infancy of a science, allowing the scientist to introduce beginners to an unfamiliar subject. As the science matures, however, and

beginners are replaced by skilled practitioners, scientists develop descriptive languages that allow practitioners to dispense with scientific images altogether.

The three papers that make up the fourth section explore the potential of images to synthesize fragments of knowledge into a global picture. "Planetary Diagrams—Descriptions, Models, Theories …" by the team of Bruce Eastwood and Gerd Graßhoff shows the stability and evolution of planetary diagrams in the period 800 to 1600. The material is often demanding and the contextual introduction to the models, through Charlemagne's reforms of the curricula and identification of manuscripts, is protracted, but the article sheds a great deal of light on how these models might be seen as a stimulus for the rise of the Copernican theory. Giancarlo Nonnoi's "Images, Models and Symbols in Copernican Propaganda" places Galileo's use of images in the context of the defense of the Copernican hypothesis in the period 1610 to the mid-seventeenth century. The paper is a masterful inter-textual study, drawing rich parallels between different meaningful images, from Galileo's *Sidereus Nuncius* (1610) to two works by John Wilkins (1638 and 1640). Alan Cook's paper explores the various techniques introduced by Edmond Halley to represent such phenomena as trade winds, magnetic fields, tides, auroras and eclipse. The paper is a testimony to the ingenuity of Halley, in seeming defiance of the injunction of the editors against a history of science as a series of heroic discoveries. The section of pattern recognition seems out of place, and three of the last six plates provide little support for the central claims of the paper.

The final section, consisting of two papers, focuses on the representation of systems of knowledge by images. Matthias Winner's "The Mathematical Sciences in Raphael's *School of Athens,*" is an engaging discussion of Raphael's masterpiece. Still, the article sheds no light on the mathematical sciences per se. I was unable to discern a thematic thread in Annarita Angelini's "Encyclopedias and Architecture in the Sixteenth Century." Angelini's paper is just one of many papers in this volume that do not advance a thesis. Although the editors do attempt to make allowances for this shortfall, their introductory remarks are far too brief and programmatic to alleviate this problem altogether.

This volume is copiously and beautifully illustrated throughout, and the contributors have worked hard to show that the power of the images they present is intimately tied to their potential as reservoirs of knowledge. Although the English text is awkward in places, for the most part it is clear and compelling.

This volume will be warmly received by the Renaissance scholar. However, for the scholar of the early modern period, who is interested in scientific illustration, the volume will be received with less enthusiasm. The many celebrated illustrations of this period, associated with the names of Vesalius, Swammerdam, Malpighi, Redi, Hooke, Leeuwenhoek, Hevelius, and others, are discussed, if at all, in passing. This oversight is compounded by the fact that the focus of the papers, for the most part, is on technological drawing and not on scientific images, in a more circumspect sense of the term. The articles strive hard to connect technological drawing with science, but fall somewhat short of the mark.

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Erica Fudge. *Perceiving Animals: Humans and Beasts in Early Modern English Culture* (Urbana and Chicago: University of Illinois Press, 2002), pp. 233 $19.95 (softcover) ISBN 0 2525 7068 2.

Erica Fudge, Ruth Gilbert, and Susan Wiseman, eds. *At the Borders of the Human: Beasts, Bodies, and Natural Philosophy in the Early Modern Period* (Basingstoke: Palgrave Macmillan, 1999), pp. 288 £18.99 $30.95 ISBN 03 3397 3844.

What kind of creatures are werewolves, wild boys, and homicidal pigs? Are they real or mere representations? Are they best understood as lapsed humans or advanced animals? What is at stake in such determinations? These and other questions are explored by Erica Fudge in *Perceiving Animals: Humans and Beasts in Early Modern English Culture*, a well-researched and provocative study that offers an extended exploration of the "animality of humanity" in British thought from the late sixteenth to early seventeenth century. Taking the practice of bear-baiting in the London Bear Garden as its point of departure, *Perceiving Animals* argues that the representation of animals repeatedly revealed the incapacity of human beings to inhabit their humanity. In such violent and disturbing practices as cockfighting, monkey-baiting, vivisection, and bestiality, the slippage between human and animal states was fully manifested. Yet it was also the case that they owed their very popularity to their ability to illuminate that conceptual barrier.

Animals cannot speak in words, and their history is therefore necessarily represented by humans. To her credit, Fudge takes the anthropomorphic projection and is careful not to naively recapitulate its stance. Nonetheless, by virtue of writing about animals, a degree of anthropocentrism is necessarily rehearsed. (The autistic scientist Temple Grandin is perhaps the unique case of a human who is able, on some level, to translate the perspective of animals; it is not unimportant that she argues that animals "think" in non-linear pictures.) In Fudge's hands, animals are primarily creatures of words, and texts are her primary sources of evidence. Her work offers few visual images, the analyses of which are weakly contextualized and partial. Instead, using period sources, following a trajectory from Aesop to Ben Jonson, she demonstrates that the use of language has been used to differentiate human and beasts, and the writing of their history thus remains a manifestly human activity. She escapes the reductive man-animal binarism by repeatedly demonstrating how the very state of "human-ness," conceived philosophically and not taxonomically, was repeatedly challenged, revised, and reconfigured by the mundane proximity of beasts to humans in the early Modern period.

Chapter One begins with bear-baiting, arguing that the activity offered the entertaining possibility of demonstrating man's dominion over beasts, whereby even the most pitiful individuals could temporarily feel powerful by virtue of this hierarchy. At the same time, however, the audience's delight in this cruel activity revealed the "animal that lurks beneath the [hominid] surface": the uncivilized practice dehumanized spectators simply because they were looking. This uniquely human capacity for denigration leads into Chapter Two, which interrogates the thorny matter of conscience. In one of the most interesting

sections of this study, Fudge probes the examples of werewolves, operative as "real" rather than supernatural creatures which illuminate the difference between "speaking and barking" within the same metamorphic frame. Shape no longer offered a reliable index of the human condition. As visible markers of difference became increasingly suspect, the denotative capacity for language was refined into degrees of "eloquence." As explored in Chapter Three, the determination of eloquence was a matter of interpretation, and was thus deeply embedded inside a humanist matrix which merely served to confuse things. The rise of skepticism is further explored in Chapter Four, which pursues the proto-scientific excavation of the animal anatomy as a way to see beyond the Renaissance theatre of appearances. Chapter Five invokes the legal status of animals, both as property held under a system of legal classification (as "wild," "domestic" and "other") and as actors capable of committing crimes for which they were routinely placed on trial. Perhaps because of the clarity offered by the legal structure itself, as well as the solid secondary scholarship documenting this particular aspect of animal history, this chapter is particularly convincing. Chapter Six focuses on the writing of Richard Overton and the politics of animal representation. In this crucial chapter, Fudge introduces Overton's argument for a history of animals that does not take man as its measure. Yet though Overton recognized "the animal as an animal, important in and of itself," the animal was used as a political tool, and was still a passive subject rather than an active agent. Fudge's Epilogue acknowledges Overton's own embarrassed admission that he "love[d] the sport" of bear baiting, closing the circle by returning to the contested arena that prompted her to initiate this inquiry. In the end, Overton's failure to escape his own cultural conditions is an indirect reminder to readers to consider their own attitudes to the animals described in this fascinating history.

Throughout *Perceiving Animals*, Fudge largely avoids the Cartesian standpoints that dominated the *de animalibus* debates on the Continent. Instead, the dualistic framework of modern corporeality is explored in an anthology, edited by Fudge, Ruth Gilbert, and Susan Wiseman, *At the Borders of the Human: Beasts, Bodies and Natural Philosophy in the Early Modern Period*. Moving beyond the British debates to offer additional case studies in Europe and the New World, this anthology ranges across geographical boundaries in order to reveal the fragility of the human condition. This collection of twelve essays offers a range of solid scholarship that examines "boundary practices" such as midwifery and pornography, along with hybrid creatures that challenge prevailing systems of order, such as hermaphrodites and cyborgs. The wild boy, the anthropomorphic ape, and the bestialized woman also make an appearance, their treatments by Michael Newton, Susan Wiseman, and Mary Peace offering interesting comparisons to the discussion of such characters by Fudge in her monograph. The contrast demonstrates the importance of historical specificity precisely because their meaning is not fixed; inside the modern imagination, the figure of the ape is always in the background, but it is also always changing.

These essays are very dense, and in some cases difficult to read, in part because of the rapidity which with they move from the familiarities of "huntying & hauking dysyng & cardyng etyng & drynkyng& in conclusion in al vayn pleasure pastime & vanyte," to the problem of "caeteri homines"—other men—in the next breath. One senses the tyranny of page limits and maximum charac-

ters in that swift collapse of references. These essays want more space. In that very constriction, however, it becomes clear how much more can be said, and how much more work needs to be done. The history of animals is just beginning to be written.

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Louise E. Robbins. *Elephant Slaves and Pampered Parrots: Exotic Animals in Eighteenth-Century Paris* (Baltimore: Johns Hopkins University Press, 2002), pp. 349 $52.00 (hardcover) ISBN 0 801 867 533.

In 1771, the duc de Croÿ visited the Ménagerie at Versailles and was entranced by its male rhinoceros, "a menagerie item unique in Europe and of the greatest interest" (65). The duke continued to visit the rhinoceros and its not-quite-as-fascinating female elephant until 1782, his unstudied comments providing an invaluable first-person account of the elite perception of exotic animals during this Enlightened period. In her study, *Elephant Slaves and Pampered Parrots*, Louise E. Robbins has done a noteworthy job excavating primary sources and synthesizing them into a coherent cultural history. At the same time, however, it leaves the reader with an overview that wants more depth and texture to be truly satisfying. For example, it was specifically the maleness of the rhinoceros that captivated the duke, and its head and penis were the two features of its body that anatomist Petrus Camper drew. Perhaps Camper knew that his effort would be compared to Albrecht Dürer's famous rendering, and thus he chose to illustrate parts rather than the whole, but the fact that the male organ was singled out in this fashion implies that the sexes of both animals were crucial for reasons beyond reproduction. Though Robbins makes use of the archives, her analyses remain largely reliant on published sources. Yet the documents found in the archives reveal a very different set of conditions at the eighteenth-century Ménagerie than the standard image she reinforces. At the same time that the duke was blandly marveling over the rhinoceros' uniqueness, the "rather hostile" animal had managed to kill two young men who imprudently jumped into its arena (Heinrich Sander, "Nachricht vom Rhinoceros in Versailles," *Naturforscher* 13 (1779), 2, and AN O1/1805, dossier 4, no. 207.) As a result, "there are several urgent repairs to make in this area, and notably the Rhinoceros's Barge that is entirely degraded," reported the duc de Noailles in 1781. "The time will come when he leaves to take a bath, for I have been assured that if it lacks water, it shall die of deprivation. As this animal is very curious and very difficult to have delivered, it would be a true loss for the Ménagerie"(AN O1/1805, Dossier 4, no. 214). Despite these hardships, the rhinoceros lived on. The next year, the elephant died.

The Menagerie's actual state of dilapidation stood in stark contrast to its ongoing symbolism as an object of despotic luxury, for which it was condemned by Diderot's and D'Alembert's *Encyclopédie*. It is the competing modes of description (anatomical, zoological, *voyageur*, amateur) as well as the different audiences implied by dissemination as book, newsprint, engraving, painting, drawing and manuscript, which offer insights into the changing configuration

of class and the emerging dominance of popular culture, the tensions among which remain largely unacknowledged in Robbins' study. This being said, *Elephant Slaves and Pampered Parrots* begins to demonstrate the extensive physical presence of living animals inside the eighteenth-century city, a compelling topic which has largely been confined to explorations of their presence in poetry, philosophy and literature. She asks, "How did these exotic animals get to France, who brought them and why, and where did they reside in Paris?"(3). She discusses the import trade in Chapter One, "Live Cargo," which locks the history of animal shipments with the colonial slave and sugar trade between Europe and Africa, the Americas, and the East Indies. Though exceedingly difficult to keep alive on long sea voyages, animals served as diplomatic gifts as well as scientific specimens, a state further explored in Chapter Two, "The Royal Menagerie." Robbins' interpretation of this menagerie follows the conventional reading of this institution as a "show of absolutist power" and place for "scientific study" (39) (a revised interpretation of this site, based on archival documents, is offered in my article, "The Seventeenth-Century Menagerie at Versailles," forthcoming, *The Art Bulletin*). She concludes that the menagerie's overall importance "dwindled as exotic animals became more common" via increased trade (40), as demonstrated in Chapter Three, "Fairs and Fights." Robbins describes the practice of animal "entrepreneurs," whose fugitive history she has carefully rebuilt, and shows how ubiquitous was the presence of lions, tigers, monkeys, and bears parading through the streets, and how utterly conventional were staged animal combats between domestic dogs, bulls, and various carnivores. Not all animal displays were bloody: the pacifist side of the animal trade is explored in Chapter Four, "The Oiseleur's Guild," and Chapter Five, "Pampered Parrots," both fascinating chapters which speaks volumes about the regulation of the open marketplace and the changing demands of bourgeois consumers in eighteenth-century Paris. In Chapter Six, "Animals in Print," and Chapter Seven, "Elephant Slaves," she turns to the literary representation of animals in fables and natural histories as chiefly represented by Buffon's *Histoire Naturelle*, examining the prominence of moralizing lessons which they were made to embody. The rhetoric and the reality of animals converge in the concluding chapter, "Vive la Liberté," which discusses the Revolutionary "freeing" of the animals "imprisoned" in the Ménagerie at Versailles, and the establishment of a new Ménagerie at the newly created Muséum d'Histoire Naturelle in Paris.

Robbins' streamlined account of that contested foundation is symptomatic of an overall tendency to subsume events into a smooth narrative that is entirely persuasive, but also avoids the deeper questions that might more accurately reflect the messier aspects of history. The fact that valuable monkeys and parrots were eaten on the voyage back to France from Brazil (11) makes the reader wonder less about the taste of their flesh and more about the ship's regular provisioning. Who was held liable for the loss? What happened to the crew when no more cargo animals remained to eat? Landlubber naturalists were also thrusting directions into the hands of ship's captains regarding the proper collection of specimens; some discussion of this (unintentionally comical) transaction might also have been expected in such a chapter. Similarly, Robbins' discussion of animal "slaves" demonstrates the active use of the analogy between two kinds of captive "beasts," but remains aloof to the external debates regarding human slavery in the colonies which gave the analogies their

political urgency. *Elephant Slaves and Pampered Parrots* is an excellent synthesis of a vast range of material, but in the end, the precise meaning of these exotic animals is swept up in generalizations. The advantage of such an approach is that it renders the cultural history of animals accessible to a wider readership than specialists in the history of science or Enlightenment France, and for that, Robbins' careful effort deserves recognition.

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Jürgen Helm and Karin Stukenbrock, eds. *Anatomie. Sektionen einer medizinischen Wissenschaft im 18. Jahrhundert* (Wiesbaden: Franz Steiner Verlag, 2003), pp. 323 €48.00 ISBN 3 515 08107 0.

Die Anatomie des 18. Jahrhunderts erfreut sich in der Geschichtsschreibung nur bescheidener Aufmerksamkeit. In medizingeschichtlichen Überblicksdarstellungen wird sie meist nur gestreift, denn die Zeit der großen anatomischen Entdeckungen eines Andreas Vesal, eines Fabrizio d'Aquapendente, eines Realdo Colombo war vorbei. Der Brennpunkt wissenschaftlicher Innovation hatte sich von der Erforschung der anatomischen Strukturen auf die Untersuchung physiologischer und pathologischer Prozesse verlagert.

Wie das vorliegende Buch zeigt, bietet die Beschäftigung mit der Anatomie des 18. Jahrhundert dennoch weit mehr als einen bloßen Blick auf anatomische Spezialforschungen und ihre zuweilen faszinierend detailgetreue Visualisierung in den führenden anatomischen Lehrbüchern der Zeit. Der Band ist hervorgegangen aus einem Symposium, das 2001 zum 250. Todestag des Wittenberger Anatomien Abraham Vater in Wittenberg stattfand. Geographisch konzentriert er sich weitgehend, aber nicht ausschließlich auf die deutschsprachige Anatomie. Das Spektrum der insgesamt 14 Beiträge ist weit gespannt. Es reicht von Person und Werk Vaters (Jürgen Helm; Thomas Schnalke) über die damalige anatomische Praxis und Lehre am Beispiel Wittenbergs und Wiens (Hans-Theodor Koch; Sonia Horn) über wichtige anatomisch-physiologische Teilaspekte wie Nervenmorphologie und Reizleitung (Irmgard Müller/Daniela Watzke) bis zu Fragen der Leichenbeschaffung (Karin Stukenbrock) und der wachsenden Rolle der ärztlichen Expertise vor Gericht (Gerhard Ammerer). Auch die pathologische Anatomie wird dabei verschiedentlich thematisiert. Ein eigener Beitrag zu Giovanni Battista Morgagni (Jürgen Konert/Holger G. Dietrich) beschränkt sich allerdings weitgehend auf eine Zusammenfassung der Ergebnisse der älteren deutschsprachigen Forschung. Einzelne Autoren greifen auch gezielt über den engeren Bereich von Medizin und Wissenschaft hinaus in Kunst und Literatur. So versucht Susanne Greinke die sogenannte „mediceische Venus", das in Wien befindliche anatomische Wachsmodell eines weiblichen Körpers, als Repräsentation neuer zeitgenössischer Körperbilder und eines neuen Frauenbildes zu deuten. Maximilian Bergengruen geht der Rolle anatomischer und überhaupt medizinischer Begriffe und Metaphern bei Jean Paul nach. Gerhard H. Müller präsentiert Goethes letzte Schrift über die „Plastische Anatomie". Und Christian Soboth untersucht – die Anatomie freilich kaum mehr am Rande berührend – die gewandelte Bedeutung von Tränen und Weinen in Pietismus, Aufklärung und Empfindsamkeit.

Anstatt genauer auf die einzelnen Beiträge einzugehen, seien hier stellvertretend nur zwei, im Ansatz geradezu konträre und doch auf ihre Art jeweils besonders gelungene Aufsätze etwas genauer vorgestellt. In die Details unterschiedlicher anatomischer Präparationstechniken führen Rüdiger Schultka und Luminita Göbbel ein. Ausführlich schildern sie die Herstellung von Feucht- und Trockenpräparaten, die Entwicklung unterschiedlicher Injektionstechniken und Korrosionsverfahren zur gezielten Darstellung einzelner anatomischer Strukturen und skizzieren die besonderen Probleme bei der Darstellung der Lymphgefäße. Was zunächst als trockene und hochgradig technisch orientierte Abhandlung imponiert, erweist sich bei genauerer Lektüre nicht nur als vorzügliche Zusammenfassung einer wenig beachteten und diffizilen Materie. Die Autoren schärfen zugleich den Blick für die Entstehungsbedingungen und Charakteristika damaliger anatomischer Präparate, wie sie uns heute noch in manchen Sammlungen begegnen. Und sie erarbeiten letztlich, ohne dies explizit zu machen, auch eine wichtige Grundlage für die genauere Untersuchung des Einflusses solcher anatomischer Artefakte auf die damals herrschenden Bilder vom menschlichen Körper und seinen anatomischen Strukturen, indem diese Bilder sich zweifellos stets auch der Begegnung mit solchen Artefakten verdankten.

Eine ganz andere Richtung und Fragestellung verfolgt Marion Maria Ruisinger in ihrer Untersuchung des Verhältnisses von anatomischem Wissen und therapeutischer Praxis in der Behandlung Starkranker durch Lorenz Heister. Ihr Ausgangspunkt ist ein bemerkenswerter Befund. Heister, die weithin unbestrittene Autorität in der damaligen deutschen Chirurgie, griff auch in seiner Lehre vom Star auf neueste anatomische Erkenntnisse zurück. Insbesondere verortete er den grauen Star, der aktuellen Forschung folgend, nicht mehr im Kammerwasser, sondern in der Linsensubstanz selbst. In seiner eigenen chirurgischen Praxis aber, wie sie sich vor allem in seiner Patientenkorrespondenz spiegelt, gründete Heister seine besonderen Kompetenzansprüche nicht etwa auf neue anatomisch fundierte Operationsverfahren, sondern behandelte die meisten Starkranken konservativ mit inneren Arzneimitteln. Erklärlich wird dies, Ruisingers Analyse zufolge, im Blick auf Heisters Bemühen sich optimal auf dem Gesundheitsmarkt zu positionieren. Sein Vorgehen erlaubte es weit besser als eine operative Spezialisierung, nicht nur sein gelehrtes Buchwissen zur Geltung zu bringen. Er konnte damit auch seine Therapieansprüche auf das Gebiet des schwarzen Stars ausdehnen und so eine kleine, aber sehr zahlungskräftige Klientel zu sich nach Helmstedt zu ziehen, verbunden mit lukrativen Honoraren und einem beachtlichen Prestigegewinn vor Ort. Und er konnte seine arzneiliche Behandlung – mit besten Aussichten auf eine erfolgreiche Kur – auch jenen zahlreichen Patienten anbieten, die nur an kleineren Sehstörungen litten, aber fürchteten, diese könnten sich zum Star entwickeln, wovor Heister sie dann zu bewahren versprach.

Dank solcher Beiträge vermehrt der vorliegende Band nicht nur unser Detailwissen über die deutschsprachige Anatomie des 18. Jahrhunderts, ihre Vertreter und ihre Wirkungsstätten, sondern weitet immer wieder auch den Blick auf den breiteren sozialen Kontext der Anatomie und ihre Relevanz für die medizinische Theorie und Praxis insgesamt.

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