

development in the history of thinking about *res vivens*. Bodies are alive for Glisson because there is an energetic nature at work in them, and they are distinguished from dead bodies to the extent that the order of the energetic nature, which defines all bodies, appears in their organization. Glisson seeks to come up with a principle of individuation beyond the difference between the bodily and the immaterial and ultimately finds it in a “process ontology” that connects stimulus, differentiation, and reaction with one another in a corporeally delimitable unity. Glisson calls the entity “fiber,” the process “perception,” and the organically organized connection of fibers a “living body.”

Chapter 5 treats G. E. Stahl’s notion of organism. In mapping the transformations of organic order that begin to intensify from the seventeenth century on, Cheung argues that the object of these transformations, which is at the same time the subject or agent of an order-creating activity, is what would come to be called the “organic body” and that this order is first identified by Stahl in 1684 as “organism.” This notion of “organism” as “structure” or organization would be repeated shortly after by Nehemiah Grew, in his *Cosmologia Sacra* of 1701: “How admirable also is the natural Structure or Organism of Bodies” (p. 63). This is a stage in the history of the concept of organism that Cheung has already adeptly treated in an influential article, and we are reminded here of the importance of close attention to subtle shifts in this term’s meaning over time.

In Chapter 6 we have a treatment of Théophile Bordeu’s account of the local regulation of sensitive organs and Paul-Joseph Barthez’s theory of the vital principle (Barthez’s account of “rolling flesh” [*chair fondue ou roulante*] is particularly interesting). Cheung argues here that around the middle of the eighteenth century the school of Montpellier vitalists was instrumental in turning science’s attention from perception to irritability and sensibility. Through this transformation, he argues, the discourse of the living splits off from the mind-body intersection of *res cogitans*, which is constituted out of perceptual processes, and develops into “an inner-outer intersection of living beings that encompasses plants, animals, and humans, that are constituted through stimulus-differentiation-reaction processes” (pp. 257–258).

In Chapter 7 we learn about Charles Bonnet’s living “web machines,” and in Chapter 8, finally, we have an analysis of Xavier Bichat’s account of the connection of webs into living systems and Georges Cuvier’s account of the

types of organization of the different kinds of living being.

In sum, this study brings out remarkable continuities across two centuries that are generally thought to be quite far from one another with respect to the basic theoretical presuppositions and guiding questions in the sciences of life. It may be hoped that *Res vivens: Agentenmodelle organischer Ordnung 1600–1800* will eventually be translated into English, in order to gain the wide readership it deserves.

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Brian A. Curran; Anthony Grafton; Pamela O. Long; Benjamin Weiss. *Obelisk: A History*. (Burndy Library Publications, N.S., 2.) 383 pp., illus., bibl., index. Cambridge, Mass.: MIT Press, 2009. \$27.95 (paper).

This beautifully printed book disproves the old adage that committees inevitably produce misbegotten work. It originated some time ago at the Burndy Library, then at MIT, when Tony Grafton was asked by Evelyn Simha and myself (then directors of the Dibner Institute) to revisit the intriguing story of the raising of an Egyptian obelisk at the Vatican in the late sixteenth century. The architect whose plan eventually won out, Domenico Fontana, wrote a famous, and famously handsome, account of the affair circa 1590. The Burndy’s collections included Fontana’s volume, and Bern Dibner (founder of the library) had years before published a lovely short book recounting the events. Grafton’s vast knowledge of Renaissance humanism and his decidedly nonacademic writing style were, we thought, perfectly suited to a re-examination of the matter, one that would appeal to a wide audience. Over time he developed a much broader vision and brought together a team of scholars to generate this well-written volume. Two of the team, Brian A. Curran and Benjamin Weiss, had studied with Grafton at Princeton, while Pamela O. Long has written extensively about Renaissance engineering.

Obelisk is rather like the realization of a Platonic world. It is about an idea—the image of a pyramidally capped, four-sided column—but it is also about the image’s concrete instantiations. Chapters 1 and 2 (due to Long, Curran, and Weiss) begin the book with an informative account of the construction and significance of obelisks in Egypt and Rome. Here we learn how these immense objects were carved out of bedrock and transported and why they were built centuries after pyramid construction proper had ceased. In ancient Egypt the obelisk was “a

monumental intermediary between heaven and earth" (p. 18), embodying the pharaoh's sacred and earthly power and the inveterate boastfulness of antique monarchs. Ramesses II, the longest-reigning pharaoh of all, had no fewer than twenty-five built. From the time of Augustus, the Romans transported these mysterious symbols of power and Egyptian solar religion to Italy, where they were re-erected, most famously at the Circus Maximus (immortalized in the twentieth century's imagination by Charlton Heston's chariot race 'round the Circus in *Ben Hur*) and (by Caligula) in the area of the *mons Vaticanus*. We turn in Chapter 3 to the Middle Ages, a time when Rome had become "an architectural boneyard" (p. 62) and a site of Christian pilgrimage. The obelisks themselves had become confusing objects by then, most having collapsed and their meaning, Roman or Egyptian, having long been lost. By the end of the fourteenth century they and other Egyptian antiquities and inscriptions had become part of a broad revival, providing "authoritative models worthy of imitation and emulation by contemporary artists, princes, and popes" (p. 69). During the High Renaissance, Egypt and its mystical, symbolic hieroglyphs (as it was then thought) became objects of central interest, the obelisks especially so. Chapter 4 (like Chapter 3, written by Grafton and Curran) learnedly lays out these developments, while Chapter 5 (due primarily to Long) offers a striking account of the intriguingly complex technical and cultural events behind the move of the Vatican obelisk to a more suitable location at the behest of Pope Sixtus V and under the direction of Fontana.

Chapters 6 and 7, which nicely exhibit Grafton's characteristic style and acumen, examine the meanings of the obelisks, and Egyptian matters more broadly, in the sixteenth and early seventeenth centuries. Here we learn, for example, that Sixtus's aim was to "suppress [the obelisks] and subject them to the superior power of the Christian God" in an effort to confront "a worryingly powerful strain of ancient paganism" (p. 149). The inimitable polymath Athanasius Kircher, with his combination of linguistic acumen (in identifying Coptic as the final form of ancient Egyptian) and utterly fanciful interpretations of hieroglyphs, marks "the climax of the Renaissance response to Egypt and its obelisks" (p. 171). Chapters 8 and 9, by Curran, Grafton, and Weiss, range over the eighteenth century, whose obelisks were both physically smaller and less culturally absorbing than those of the High Renaissance, not least because the end of the seventeenth century's religious wars sapped their potential as icons of papal power

and of Counter-Reformation. "Gone," note the authors, "was Sixtus' martial, even belligerent symbolism, replaced by more subtle intellectual programs that were much more difficult of access" (p. 186). Rome itself became a tourist stop, a center for the study of art, a "shopper's paradise," and a convenient market for ancient artifacts dug up around the city, thereby inaugurating the modern commerce in antiquities that has in recent decades become intensely controversial. Weiss's Chapters 10 and 11 turn to the late eighteenth and the nineteenth centuries, beginning with Napoleon's invasion of Egypt and continuing through the transport of the obelisks known as "Cleopatra's needles" to New York and London. The final chapter (a joint effort) concludes with the twentieth century and the return to Ethiopia of an obelisk purloined by Mussolini—now repatriated not by ship but on a huge plane at the cost of €6 million.

This is an innovative and exemplary work. It cannot be confined to any single category—certainly not to history of science or history of technology, for it transcends both. It is the history of an artifact as idea, object, and obsession. The production by MIT admirably fits the superb text. Printed on heavyweight matte paper, the book contains dozens of beautifully reproduced images drawn from contemporary works, many from the collections of the Burndy, which is now located at the Huntington Library in San Marino, California. Certainly one of the most attractive and elegant books of history recently printed, *Obelisk* sells for an extraordinarily reasonable price. Digital technology has brought and will bring immense benefits of access to the world of scholarship, but some books should exist in paper and ink. This is one of them.

JED BUCHWALD

Jacalyn Duffin. *Medical Miracles: Doctors, Saints, and Healing in the Modern World.* xviii + 285 pp., apps., illus., tables, bibl., index. New York: Oxford University Press, 2009. \$29.25 (cloth).

What is the relationship between miracles and science? Within the history of science, the study of miracles has often been tied to the interest in "wonders." Lorraine Daston and Katharine Park, in their *Wonders and the Order of Nature* (Zone, 1998), make it clear that medieval natural philosophers and theologians often used the terms for marvels (*mirabilia*) and miracles (*miracula*) interchangeably, blurring the distinction between sacred and secular objects of wonder. Their study traces the origin of wonder as a