

and a report of the contamination of Valencia by a pestilence. These articles were authored by leading medical scholars of the day.

The second book is a commemorative volume honoring the 500th anniversary of the discovery of the Americas. Jorge Navarro describes the state of medical knowledge and the practice of Spanish physicians in the Americas in the nineteenth century. This book is also divided into two parts. The first is an introductory essay by Navarro. He provides a useful summary of the role of medicine in the Americas; for instance, the topic of infectious diseases and epidemics is covered extensively. Concern for public sanitation and proper medical procedures for the prevention and elimination of epidemics is shown to have been a significant issue during the nineteenth century. The transmission of medical knowledge in surgery and pathology from Spain to the Americas is an important part of this chapter. Another important contribution is a bibliographic analysis of medical texts and articles published in the Americas during this period. The contents of these published materials, the country in which the article appeared, and some general information regarding medical terminology in use at the time are all discussed.

The second part of the book is a reprinting of seven original texts that appeared between 1842 and 1880. An interesting and lengthy article, for instance, presents the history of syphilis in Europe from the Greeks through 1492. The author concludes that syphilis was common in Europe and was transmitted across the Atlantic Ocean to the Americas; he notes that the medical facts surrounding syphilis run contrary to the then-existing belief that syphilis was first contracted in the Americas and carried to Spain by mariners. Another fascinating article describes an experimental study of the effects of vaccinations in different climates of the Americas. Here the author describes a study that used children as human guinea pigs; they were transported in Spanish vessels and vaccinated for the purposes of observing the effects of climatic and environmental conditions. Yet another report describes a New World substance that has come to be known as rubber, which, because of its elasticity, was used to close wounds following surgery.

Another experimental report describes studies involving papaya juice. The similarities between the digestive processes of the human body and the acidic properties of pa-

paya juice are emphasized. The article concludes with a description of the possible use of papaya juice, which causes human tissue to disintegrate, albeit slowly, in the nonsurgical eradication of certain tumors. Other papers include clinical reports of surgical treatments for various injuries.

These two books describe medical science at two very distinct periods in Spanish history. Both volumes merit the attention of serious scholars of medical history. The book by López Piñero is especially attractive for its magnificent reproductions of sixteenth-century medical texts. Also invaluable are the original essays reprinted in both volumes. Otherwise hard to locate, these essays provide a window into the medical issues of their day and show how these concerns were addressed by medical practitioners. The books are recommended to scholars interested in the medical history of Spain and the Americas.

AMADO M. PADILLA

Teresa Meade; Mark Walker (Editors). *Science, Medicine, and Cultural Imperialism.* viii + 207 pp., index. New York: St. Martin's Press, 1991. \$45.

The scope of this book is very broad. In addition to the three nouns in the title, suggestive of the range of subjects dealt with by the papers—which cover a variety of time periods, countries, disciplines, and branches of medicine—the volume also includes essays on technology. And as if this combination were not sufficient, the explicit aim is to look at the effects upon racial, sexual, national, and international relations between and within societies.

The individual essays introduce important questions regarding the role of science, broadly defined, in fostering cultural imperialism. But the volume as a whole gives the impression that the editors left their job half done. In the introduction they admit that the papers use a vague definition of "cultural imperialism." The task of the editors, one would have thought, was to elaborate the questions raised by the individual essays, if not into a model, at least into some kind of scheme that "would inspire further research on this difficult, yet enormously significant issue" (p. 3).

In his essay on scientific standards and colonial education in British India and French Senegal, Michael Adas examines the evolu-

tion of decisions made by colonial administrators in the nineteenth and early twentieth centuries regarding the diffusion of scientific learning and technical expertise to colonized peoples. He shows how colonial policymakers were influenced by inherited ideas about the innate abilities of different "races" for adaptation and cultural development and how colonial education policies played a direct part in shaping contrasts between India and the nations of Africa in the independence era. This general scheme is nicely focused in Saul Dubow's study of the mental testing movement in South Africa at a time—in the first half of the twentieth century—when segregation policies and the "poor whiteism" question became pressing political priorities.

James E. McClellan III analyzes the role of French science and medicine for the development of French colonialism in the Old Regime French West Indian colony of Saint Domingue (modern-day Haiti), with emphasis on the Cercle des Philadelphes, created in 1784 and officially approved by Louis XVI in 1789. McClellan questions the notion of science as inevitably an agent of historical progress, arguing that French colonial science at the end of the eighteenth century served the retrogressive systems of mercantilism and chattel slavery. Satpal Sangwam explores the imperial considerations behind the introduction of steamboats in Indian waters and their role in enhancing and safeguarding British colonial interests. He argues convincingly that the "best use" of steam power under colonial relations was very different from "best use" of the same technology in the metropolis. Donna Guy persuasively shows that European health policies based upon social control of prostitution were considered "modern" and "scientific" in foreign lands so long as no European women were exploited. European prostitutes who would have been compelled to enter bordellos in European cities were considered victims if found in Latin American bordellos. International moral reform movements that relied upon racism, sexism, and nationalism in order to close down houses or to remove European women conflicted with medical programs for the control of venereal diseases; Latin American cities were the battleground.

Most of the essays are summary versions of independent monographs recently published. As such they will be of interest to students of colonial education, French colonial medicine, and public health policies and

campaigns in Europe and the colonial and postcolonial world.

HEBE VESSURI

Maurice Daumas. *Le cheval de César: Ou le mythe des révolutions techniques.* (Histoire des Sciences et des Techniques.) x + 324 pp. Paris: Éditions des Archives Contemporaines, 1991. Fr 150 (paper).

The primary aim of *Le cheval de César* is unexceptionable: Maurice Daumas wants to prove, once and for all, that technological revolutions do not exist. Technology has evolved over the centuries in small, identifiable steps. Inventions have histories, and innovations occur only in receptive social climates. Seemingly disparate technologies are linked to each other by industrial activity. History has witnessed different phases of technological evolution. These phases, or "complexes," have melted into one another; they have not been demarcated by revolutions. As evidence, Daumas marshals a staggering range of technological developments: steam engines, sewing machines, atomic bombs, and computers—to name just a few.

Daumas argues that technology is "the only human activity that never went through a period of regressive evolution" (p. 314, translation mine). Technology, he claims, "progressed" according to its own "internal logic"; scientific and economic events accelerated this progress. Humans made technical choices, but single choices determined the development of entire industries. For example, Westinghouse's access to Nikola Tesla's patents in the late nineteenth century led the company through a series of technological stages that culminated in the manufacturing of nuclear generators. Two hundred years ago, social need dictated such choices. Today, in part because of the acceleration in technological evolution caused by the two world wars, technology drives social change.

Daumas thus subscribes to models of technological development long abandoned by historians of science and technology. The relationships he discusses (those between invention and innovation, science and technology, technology and society) and the stories he tells are familiar. Indeed, they are so familiar that the reader can only surmise that Daumas has drawn primarily on secondary literature. Unfortunately, he fits within the

ARTICLES

- PAULA FINDLEN: *Science as a Career in Enlightenment Italy: The Strategies of Laura Bassi* 441
- LISBET KOERNER: *Goethe's Botany: Lessons of a Feminine Science* 470
- MARK S. MICALE: *On the "Disappearance" of Hysteria: A Study in the Clinical Deconstruction of a Diagnosis* 496

NOTES AND DOCUMENTS

- R. W. HOME AND MORRIS F. LOW: *Postwar Scientific Intelligence Missions to Japan* 527

LETTERS TO THE EDITOR

- D. L. SIMMS; MARTIN BERNAL 538
- YVES GINGRAS; LEWIS PYENSON 540

ESSAY REVIEW

- STEVE FULLER: *Straightening out the Scientific Image*
- Gernot Böhme: *Coping with Science*, Stephen Cole: *Making Science: Between Nature and Society*, Mary Midgley: *Science as Salvation: A Modern Myth and Its Meaning*, and Milton A. Rothman: *The Science Gap: Dispelling the Myths and Understanding the Reality of Science* 542

BOOK REVIEWS

GENERAL

- George Gheverghese Joseph: *The Crest of the Peacock: Non-European Roots of Mathematics*, rev. by DAVID PINGREE 548
- David Knight: *Ideas in Chemistry: A History of the Science*, rev. by JOHN G. MCEVOY 549
- John Hudson: *The History of Chemistry*, rev. by ROBERT SIEGFRIED 549
- Jean Bergevin: *Déterminisme et géographie: Hérodote, Strabon, Albert le Grand et Sébastien Münster*, rev. by ANNE GODLEWSKA 550
- Marcia Myers Bonta: *Women in the Field: America's Pioneering Women Naturalists*, rev. by SYLVIA W. MCGRATH 551
- David J. Hess: *Spirits and Scientists: Ideology, Spiritism, and Brazilian Culture*, rev. by SEYMOUR H. MAUSKOPF 552
- José M. López Piñero: *Clásicos médicos valencianos del siglo XVI*, and Jorge Navarro: *Las imágenes de ultramar en la medicina valenciana del siglo XIX*, rev. by AMADO M. BADIALLA 553
- Teresa Meade; Mark Walker (Editors): *Science, Medicine, and Cultural Imperialism*, rev. by HEBE VESSURI 554
- Maurice Daumas: *Le cheval de César: Ou le mythe des révolutions techniques*, rev. by GABRIELLE HECHT 555

ANTIQUITY

- James S. Romm: *The Edges of the Earth in Ancient Thought: Geography, Exploration, and Fiction*, rev. by CHRISTIAN JACOB 556
- Robert Wardy: *The Chain of Change: A Study of Aristotle's Physics VII*, rev. by DAVID E. HAHM 556
- Theophrastus: *De causis plantarum*. Vols. 2 and 3, ed. and trans. by Benedict Einarson and George K. K. Link, rev. by JOHN M. RIDDLE 557

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