

extent the approaches to illness and healing have become “disenchanted” during this period or not. The authors have drawn on a broad range of archival sources, medical literature and field studies (as far as the more recent history is concerned).

The studies in this volume show that Max Weber’s concept of the “disenchantment of the world” may be perfectly applicable to many phenomena, but lack of uniformity and divergent trends defeat the notion of “disenchantment” as a single, universal, scientific category. One might ask, however, why magic beliefs should interest medical historians. The argument that such a system of knowledge or belief has been subjected to criticism and labelling, both by contemporaries and by later historians or folklorists is not, in my opinion, sufficient. The best answer perhaps is given in Matthew Ramsey’s essay on magical healing in eighteenth- and nineteenth-century France in which he points out that at the end of this millennium “witchcraft and magical healing, which lost their metaphysical authenticity three centuries ago, have regained a cultural authenticity” that would have astonished our ancestors. In the case of witchcraft this assumption is confirmed by Hans de Waardt for eighteenth-century Holland and Enrique Perdiguero for nineteenth- and twentieth-century Spain. Gillian Bennett and Ineke van Wetering present examples of old and new religious, occult or magical “repertoires” of illness and healing up to the present day, describing, for example, the persistent belief in the ability of snakes to inhabit the human body or the cultural transfer of the Creole *Winti* healing tradition to present-day Amsterdam. The essays by Cornelia Osborne and Sarah Ferber indicate that illness and healing alternatives have to do with a different perception, which is deeply imbedded in the language people use to describe and explain sickness.

The issue of rationality of past notions of illness and healing is also dealt with in this volume. Stuart Clark demonstrates that the notion that devils could cause disease was a rational belief in the context of academic

medicine in the later medieval and early modern period. Later the founder of homoeopathy, Dr Samuel Hahnemann (1755–1843) and his many “converted” followers referred to his new art of healing as “rational”, as Marijke Gijswijt-Hofstra points out in her fascinating paper on religious metaphors and the complex relations between healing and belief. How an explanation of illness was considered rational in one context and rejected as irrational in another is elaborated by Gary Waite, showing that already in the sixteenth and seventeenth centuries the Dutch spiritualists and Mennonites faced the dilemma of accepting the notion of the devil causing diseases, preferring naturalistic explanations of supposed magical phenomena. Albrecht Burkhard and Willem Frijhoff provide two interesting biographical studies which demonstrate that in one case the authorities imposed their rationality over what they considered superstition, while in the other they did not.

There can be no doubt that the new wave of alternative or complementary medicine in Europe prompts us to think further about the ways in which sickness behaviour is historically determined. We should be grateful to the editors of this fine volume for opening up this promising avenue of research and proposing a powerful, if not always convincing, interpretation.

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**Marcos Cueto**, *El regreso de las epidemias. Salud y sociedad en el Perú del siglo XX*, Lima, Instituto de Estudios Peruanos, 1997, pp. 256, illus., \$25.00 (in the Americas), £25.00 (rest of the world) (9972-51-011-5).

Cueto’s book is a collection of historical essays, some published previously, and it concludes with a chapter on a new development in the area of epidemic disease in Peru: the cholera epidemics of 1991. It is, however, more than just a loose collection of

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historical case studies. Their juxtaposition allows for interesting confrontations between different approaches to public health in a developing country, while the discussion of recent epidemics illuminates the lesson that present-day public health officials can learn from past experiences. The bubonic plague epidemics of the early twentieth century led to the establishment of state intervention in public health in Peru, but also associated disease with poverty and marginalization, and legitimated governmental control over the life of the poor. The anti-yellow fever campaign, directed by Dr Hanson of the Rockefeller Foundation in 1922, illustrates some of the pitfalls of external intervention which does not take into account the local lay and medical cultures. By contrast, the anti-typhus and anti-smallpox campaign conducted by Manuel Nuñez Butrón in the rural department of Puno in the 1930s and 1940s shows the importance of integrating indigenous approaches and sanitary action. The failure of ambitious anti-malaria programmes in Peru questions the adequacy of approaches based on the eradication of disease, while the recent cholera epidemics show at the same time the possibility of an efficient emergency sanitary action, even under adverse conditions, but also the insufficiency of such emergency actions.

The image of public health in a developing country shown by Cueto is by no means simplistic. There are no good local doctors and bad foreigners, devoted sanitarians and heartless bureaucrats. Hanson did not understand much about Peru, but he was successful in eliminating yellow fever; Butrón's campaigns were efficient partly because he used paternalistic approaches and authoritarian measures. Science-based measures may work or not, depending on numerous contingent conditions, and science itself can be used in multiple ways. For example, the Peruvian doctors who resisted Hanson's anti-yellow fever campaign argued that the putative yellow fever germ, the bacterium *Leptospira icteroides*, cannot be isolated from the patients' blood and therefore the disease is not yellow fever. Indeed,

Hanson's "scientific" campaign was based on two assumptions which were disproved later: Noguchi's theory that *Leptospira* is the causative agent of yellow fever, and Carter's "key focus theory", which assumed that the only reservoir of the yellow fever agent is in the cities.

The complexity of some of the issues discussed in the book is nicely underlined by the choice of illustrations and photographs. The photograph of Chagas and Noguchi, a Brazilian and a Japanese, both doctors who adopted western science and were legitimated throughout their success as mainstream medical researchers, hints at the use of western science as a tool for personal advancement by non-westerners. The photograph of Manuel Nuñez Butrón carrying a candle in a procession, illustrates the role of the sanitarian as a local personality, well integrated into indigenous elites. Woodcuts from Butrón's publication, *Runo Soncco*, display the unique mixture of indigenous traditions and glorification of science and progress, proposed by Butrón and his collaborators. The posters which advertise the fight against malaria employ the visual language of war propaganda, while photographs from the 1991 cholera epidemics focus on the suffering and the bewilderment of individual patients.

Cueto explicitly criticizes the hagiographic type of history of medicine often done in peripheral countries: the glorification of local "great doctors", hospitals and medical faculties, which aims to boost national pride, and to demonstrate that a given country is not "backward", and he advocates a historiography which includes the point of view of the local populations. He also insists on links between poverty, underdevelopment and disease. On the other hand, Cueto, living in Peru, does not share the pessimistic point of view of some Western social historians, who conclude that because there is no end to poverty and underdevelopment in sight, there is little chance of significant improvement in public health in the developing countries. Citizens of these countries cannot afford the luxury of sterile despair and cannot limit themselves to

complaints, however justified, against the disastrous effects of international capitalism and of corruption of local elites. Cueto does not propose easy solutions—there are none—but his studies indicate that some improvement can take place even under difficult conditions and with limited material means, and that even in the poorest areas long-term policies which associate central planning with the participation of local communities can make a significant difference in limiting epidemics.

A final remark: Cueto's book is in Spanish, and is destined for the Peruvian (and more broadly Latin-American) market, as indeed it should be. It is, however, of interest for Western investigators as well because of the intrinsic interest of the historical materials it contains, and above all because—unlike the majority of historical studies on colonial medicine and medicine in developing countries—it is written from a non-western point of view.

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**Claudia Clark**, *Radium girls: women and industrial health reform, 1910–1935*, Chapel Hill and London, University of North Carolina Press, 1997, pp. xii, 289, \$49.95 (hardback 0-8078-2331-7), \$17.95 (paperback 0-8078-4640-6).

Most medical students have been told of the fate of the young women who in the 1920s painted clocks, watches and other dials with luminous paint containing radium; of how they developed radium toxicity and bone cancer. Few doctors know the full story of what happened. I became interested in these extraordinary events about ten years ago when I was writing an account of the causes of a form of cancer of the bone known as osteosarcoma. I burrowed deep into the original accounts and contacted some of the physicians who were still alive who had worked with the doctors who established the connection between the dial painters' exposure to radium and the illnesses which they developed.

The history can briefly be summarized. During and after the First World War the discovery by Sir William Crookes that radium, when mixed with zinc sulphide, gave a luminous material, was exploited by several companies set up in the USA and Canada to paint watches and other dials. These companies mainly employed young women school-leavers who painted the dials with a fine brush which they "pointed" between their lips. After a few years, the women began to get ill with falling teeth, necrosis of the jaw, anaemia and, later, osteosarcoma and cancer of the sinuses of the skull. It was some time before it was realized that the radium was responsible. It caused radiation necrosis of the jaw by direct action in the mouth where radium was deposited around the teeth. It caused bone marrow failure and bone cancer at distant sites because the young women swallowed the radium paint which was partially absorbed in the gut and deposited like calcium in bones. The process of medical discovery of the mechanism is fascinating and one man, Harrison Martland, made an outstanding contribution to the events. Martland was also involved, for a time, in helping the young women get some form of compensation from the employers—often rather shifty companies who would close at one site to reopen in another and who denied the association between radium and the illness it caused. Martland, in his papers in the 1920s, gives full vent to his disgust at the legal and industrial attitudes towards these young women.

Claudia Clark's book is a detailed, fascinating, and lucid account of another part of the story. This is the fight undertaken by the women for recognition of what had happened and to gain compensation. In her introduction she gives her motive as striving to tell "not only the moving story of the discovery of radium poisoning . . . but also to analyse the changing knowledge, attitudes, and institutions that affected the dial painters' struggle . . .". She succeeds in these aims.

Clark takes us through the early stages of the establishment of the factories, the state of the existing industrial legislation and the social attitudes towards radium which then prevailed.