

Book Reviews

of buildings as hospitals and warns against comparison with the layout of modern hospitals. Sites previously believed to be hospitals may have been used for storage.

Ralph Jackson finds that instruments identified as surgical were finely crafted, and the more common “quasi medical implements” might have had a cosmetic use. From the first century AD there was consistency in form of the mainly bronze or brass instruments. However, Roman blacksmiths could produce steel instruments and in some regions ore yielded natural steel.

Several papers deal with pharmacology. Marina Ciaraldi warns that the “use of modern knowledge of medicinal plants to interpret archaeological assemblages can lead to erroneous conclusions”. Plant remains in *dolia* in the Villa Vesuvio were compared and were consistent with preparations found in writings by Pliny and Dioscorides.

Debby Banham uses a compilation of four collections of recipes for her investigation of Anglo-Saxon *materia medica*. However, this is complicated by botanical name changes throughout history. Sally Crawford and Tony Randall also examine an Anglo-Saxon text, *Bald's Leechbook*, and are of the opinion that, although the described medicine was highly developed, archaeological resources are necessary to confirm the recipes. In his paper about the Mary Rose medical chest, Brendan Derham describes how he examined the contents of the forty-four artefacts found in the barber-surgeon's cabin by various analytical techniques and found medicaments still in use today.

The final papers deal with more recent discoveries. Mouli Start writes about the burials at the Newcastle Infirmary between 1753 and 1845. The majority of skeletons are disarticulated and she speculates that some of the bodies were dissected while this was illegal before the Anatomy Act of 1832. The paper by Megan Brickley concerns the recognition of osteoporosis-related fractures in the eighteenth and nineteenth centuries using historical sources.

These papers, edited by Robert Arnott, emphasize the importance of co-operation between medical historians and archaeologists in

revealing everything possible about medical archaeology.

Judy Miller,

The Wellcome Trust Centre
for the History of Medicine at UCL

**Bernadette Bensaude-Vincent and
Christine Blondel** (eds), *Des savants face à
l'occulte, 1870–1940*, Sciences et Société, Paris,
Éditions la Découverte, 2002, pp. 234, €17.50
(paperback 2-7071-3616-6).

This collection of articles explores the relationship between French science and what ended up being termed the paranormal or occult. In fact the entire volume is devoted to the social and cultural construction of these terms as two polarities in the field of knowledge. The term *occulte* in the 1870s referred to an as yet unexplained but natural phenomenon likely to be scientifically explained in the imminent future. Science, on the other hand, had a broad spectrum of applications and could be combined with a multitude of apparently contradictory beliefs. Philippe Murray in his controversial *Le Dix-neuvième siècle à travers les âges* (1984–1999) explored these apparent contradictions. As this collection demonstrates, the revival of magnetism and spiritualism from the mid-1850s always faced a mixture of scientific fury and open-minded puzzlement that led the spiritualists to establish their lines of enquiry and their publications in a para-scientific manner.

These articles are for the best part descriptive rather than analytical but they all illustrate, in varying degrees of depth, how scientists, journalists such as Camille Flammarion making a trade of disseminating scientific knowledge, or philosophers, could engage with notions of magnetism harking back to Mesmer or even spiritualism imported from the United States in the 1850s. It is less the breadth of support for notions of the occult than the combination of occultism and positivism that is specific to France. Flammarion, discussed by Nicole Edelman, is in this sense archetypal of a scientific interest in the occult. Named by the spirit leader Allan Kardec as his heir,

Flammarion articulated on Kardec's grave in 1869 a scientific approach to the occult which aimed at establishing spiritualism and magnetism as objects of science. Where Flammarion parted company with Kardec's school was when he explained the communications with the dead as "the exteriorisation of thought" (p. 121). This communication led to spiritualists denouncing him as their own Dreyfus.

The shadow of the Dreyfus affair looms also over the case of Léonie Leboulanger, the Normand sleep-walker servant-medium, who, when asked by Dr Joseph Gibert questions regarding Dreyfus' guilt in 1895, claimed his innocence and announced the existence of secret documents. Almost incredibly, on this psychic evidence alone, Gibert went to meet his friend the president of the Republic, Félix Faure, in order to plead for Dreyfus three years before the affair reached its peak. Anti-Dreyfusards also had their mediums, and the Dreyfusards chose to tar them with the brush of obscurantism and ignorance befitting their clerical sympathies (this in spite of the Church's opposition to spiritualism). The Dreyfusards claimed to bring rational and forensic methods to bear on the analysis of the case, and this methodical engagement on the side of "truth" sat uncomfortably with the spiritualist origins of their cause. Yet Mathieu Dreyfus, the brother of Alfred, went to Léonie himself and sought the evidence of his brother's innocence in her oracular statements as well as details of his conditions of detention on Devil's Island. Apparently, she predicted the Great War and the death of his sons into the bargain.

Charles Richet, later winner of the Nobel Prize for Physiology or Medicine and the man who introduced Charcot to hypnotism, was one of those who could comfortably combine his political, scientific and paranormal beliefs but only by distancing them from the sectarian forms taken by spiritualism. As Christine Blondel points out about Eusapia Palladino, a European star of spiritualism observed by Cesare Lombroso, Gustave Le Bon, Henri Bergson, Pierre and Marie Curie, and a myriad other prominent men and women of her day, the scientific method is challenged by the irregular, whimsical and sensitive nature of the

"experiments". Eusapia, known to be a fraudster on some occasions, thus became a subject of forty-three experiments between 1905 and 1907. She recognized the possibility that, under excessive pressure for results, she might, unconsciously, attempt to obtain the desired effects. Her acquaintance with theatre and illusionism from a first marriage contributed to her dextrous handling of sessions even under observation. While she managed to convince many of her observers, some, like Le Bon, remained sceptical and denounced the fraudster. Yet in the days of X-rays and radioactivity, psychic fields could find by homology the scientific plausibility spiritualists had craved for so long. The medium as transmitter fitted well with the exploration of neurones and electromagnetic forces. The absence of reliable records, the impossibility of falsifying experimentally, would eventually lead to increased suspicion, especially as illusionists and mediums tended to merge on the stages of the music halls of Europe. Yet, as Blondel notes, the gender politics of the occult deserve to be considered in more depth: Eusapia, the illiterate peasant from southern Italy, could speak in tongues and mimic the scientific jargon of the countries she had visited, she could use her body to lift tables and impress the sharpest scientists of her age.

From 1910 to 1930 spiritualism became the target of much scientific scorn and was denounced by professional illusionists. The susceptibility of scientists to the unknown is also demonstrated in Richet's episode of ghost hunting at the Villa Carmen in 1905–6. Pascal le Maléfian defines the Villa Carmen incident as a turning point in the western episteme whereby Richet's hopes of finding ghosts, and especially a young female one, became open to a psychoanalytical reading. The incidents that took place in Algiers in an atmosphere worthy of a play by Noël Coward showed the scientist as victim of hysteria and fraudsters. The main hoaxer later resurged under a different name after the war as one of the leading ectoplasmic mediums. The First World War had created a market of desolate widows and grieving people desperate to communicate with the dead and susceptible to being relieved of their cash. The

last article on *radiosthésie* and rationalists shows how even water divination and the use of the pendulum failed to find scientific support in the 1930s or to establish its own scientific credentials for lack of coherent causalities. The book as a whole argues that science constructed itself against paranormal and occult occurrences but that this process which really established the incompatibility of science and occultism took nearly forty years to set rigid boundaries.

The focus of many articles in this book tends to be on the stars of the medium world: Eusapia Palladino, Alexis Didier, Léonie, and on events such as the meeting of Robert Houdin, the music hall illusionist and great denouncer of tricksters, and Richet's ghost hunting. The background flurry of spiritualist activities and scientific encounters is alluded to only through these great names and stories. This demonstrates how complex these matters are and how much more research could be undertaken in this field.

Bertrand Taithe,
University of Manchester

Nick Hopwood, *Embryos in wax: models from the Ziegler studio, with a reprint of "Embryological wax models" by Friedrich Ziegler*, Whipple Museum of the History of Science, University of Cambridge, and Institute of the History of Medicine, University of Bern, 2002, pp. x, 206, 32 pp. colour illus., 100 halftones, £13.50 (paperback 0-906271-18-5).

Although wax-models played a significant part in the making of natural knowledge, only recently have historians started to devote systematic attention to them. Nick Hopwood's *Embryos in wax* reconstructs the story of wax-models of embryos from the end of the eighteenth-century to the days in which new experimental agendas and the wider political events of the twentieth century resulted in the quiet withdrawal of the models to museums and institute stores. Documenting the models of the Ziegler studio, and discussing a variety of aspects associated with their making and use, this very

well-crafted work sheds light on a practice and a set of objects that for more than half a century lay at the very heart of embryology. Reproducing Friedrich Ziegler's last catalogue of the models as well as a rich and lavish selection of photographs and colour plates, this study brings together fine scholarship and unexplored source material. At the same time, it also allows readers to navigate with great ease across both verbal and non-verbal domains.

From the end of the eighteenth century those who engaged in the modelling of embryos could build on the achievements of anatomical ceroplastics. Yet, the representation of embryos gave rise to new problems. Models of embryos were supposed to track the early stages of life. As embryology moved from miniature representation of children to the investigation of progressive development, wax-modellers were charged with the task of visualizing processes that took place over time and out of sight. *Embryos in wax* reconstructs how models contributed to the conceptualization of embryos as isolated objects of investigation that were defined independently of the body of the mother. It elucidates how the choices that underlay the three-dimensional representations of embryos had social and political as well as theoretical implications. Thus, for instance, embryos in wax not only stimulated medical debates between evolutionary and mechanical approaches to embryology, and informed views of normal embryonic development, they also lay at the centre of forms of expropriation and exploitation of the female body, corroborated more or less élitist views of society, epitomized visions of progress, and substantiated eugenic anxieties.

Associated with "the lower-status activities of teaching and popularisation" (p. 3), models of embryos have long lingered at the margins of historical investigations. Along with other objects, they have borne the consequences of an enduring divide between things, traditionally characterized as mute, silent and opaque, and words, typically fashioned as the privileged medium of communication. Placing models at the centre of a complex interplay between things, people and words, Hopwood's work shows that, in fact, models of embryos made sense of people