

Most revealing, and most moving, are her passages on those who suffered, and those who cared for them in the most demanding of circumstances. Set in an abandoned sugarcane plantation on a bend of the Mississippi, Carville was for many years the only leprosarium in the mainland United States. Established in 1894, it was initially run by the Sisters of Charity of St Vincent de Paul, who pioneered new treatments and new attitudes to leprosy – though their patients were not allowed to marry until 1952, and even then could not vote. From the 1930s one patient, Stanley Stein – known as the Carville Crusader – used *The Star*, Carville's in-house newspaper, to raise international awareness of their plight and to campaign for improvements in their status.

This is, as near as possible, an up-to-the-minute history of disease, and the global picture that emerges from *Murderous Contagion* is unsettling. Dobson highlights the persistent problem of sexually transmitted infections, the growing threat of antibiotic resistance, the challenge of climate change – and, though the book is far from a polemic, she makes an urgent political point. In a deeply unequal world, lack of access to basic sanitation and safe drinking water means that the global poor bear the burden of infectious disease. Vaccines, screening programmes and treatment regimes must, she argues, go hand in hand with a concerted effort to lift the bottom billion out of poverty.

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Nick Hopwood, *Haeckel's Embryos: Images, Evolution and Fraud* (Chicago, IL: University of Chicago Press, 2015), pp. viii, 388, £31.50, hardback, ISBN: 978-0-226-04694-5.

The first lecture on embryology I attended as an undergraduate remains vivid in my memory. As he began, the professor took a hen's egg from the right-hand pocket of his lab coat and broke it into a dish on the bench in front of him. A few moments later he produced a day-old chick from his left pocket. It ran along the bench, chirping. How, he asked, does the one become the other? I was transfixed. Thomas Hunt Morgan famously described embryos as 'the most fascinating objects in the world of living beings'. He was not wrong.

To Darwin, the embryo was a 'picture, more or less obscured, of the common parent form of each great class of animals'. This conviction was supported by his belief that the embryos of many vertebrates were, at a certain stage, indistinguishable from one another, even by experts. Ernst Haeckel took up this idea, summed up in a memorable aphorism, 'ontogeny recapitulates phylogeny', and ran with it. In his 1868 text, *Natürliche Schöpfungsgeschichte* (Natural History of Creation) Haeckel published a series of drawings of embryos (turtle, chick, dog and human) to illustrate the principle. The similarities are indeed remarkable. Too remarkable altogether, his critics alleged. A controversy shortly began which was to thunder on, episodically, for more than sixty years, Haeckel being accused of failings ranging from pardonable exaggeration to fraud and forgery. He acknowledged that the images were indeed 'schematic', but defended them as consistent with standard scientific practice.

Through much exemplary work in the Haeckel archive, Hopwood has reconstructed the background and production of the images. He exonerates Haeckel, more or less, from the imputation of deliberate fraud. Nevertheless, the resemblances between different animal

groups are certainly enhanced in Haeckel's drawings and it was 'reckless', to borrow Hopwood's term, to reuse the same plate to represent the embryo of more than one species. Haeckel's integrity (or lack of it) is not, however, the principal focus of this book. Hopwood is primarily interested in the cultural significance of Haeckel and his images. Being Darwin's great champion in Germany, any apparent weakness in his exposition of Darwinism was seized upon by critics and opponents of the theory of evolution. This was far from being merely a scientific matter; the origin of animal species and, in particular, of humanity, being a major issue within the fierce debates surrounding religion, secularism, rationality, the place of science in German society and much besides that characterised German political and civic discourse in the late nineteenth and early twentieth century. Hopwood provides an admirably detailed, nuanced and assured account of these complex cultural struggles, as well as of the re-emergence of criticism of Haeckel's images in the context of American creationism in the 1990s. The book also supplies a useful metabiography of Haeckel (ch. 15) and much insight into the development of techniques of scientific illustration.

Unfortunately, this reviewer has forgotten all the embryology that he was ever taught. Neither is he an expert on late nineteenth-century German history. It is possible that more accomplished scholars will find matters, scientific or historical, to quibble with. But I found none, save for the minor zoological slip of reclassifying the rabbit as a rodent. Like embryology itself, the text is occasionally repetitive. But *Haeckel's Embryos* is a magnificent scholarly *tour de force*, for which we should congratulate its author. And not only its author. The University of Chicago Press has done a magnificent job in doing full justice to the visual imagery that is at the heart of the book. I have not counted the illustrations but there must be more than two hundred, all beautifully printed on heavy, glazed art paper. All in all, this is an outstanding piece of work and a delight to study.

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Saurabh Mishra, *Beastly Encounters of the Raj: Livelihoods, Livestock and Veterinary Health in North India, 1790–1920* (Manchester: Manchester University Press, 2015), pp. 208, £ 70, hardback, ISBN: 978-0-7190-8972-5.

Beastly Encounters of the Raj provides fresh insights into the history of livestock in India and is written as a foray into the medical, social and colonial history of the subcontinent. Indeed, a remarkable strength of this book lies in the author's capacity to illustrate the way in which issues pertaining to the history of cattle are deeply entangled with larger questions relating to the nature of the colonial state, the evolution of public health and the making of class and caste identities. Taking these three aspects as overarching points of reference, the book explores a tremendous variety of subjects.

It begins with the illustration of the failed colonial experiment with horse breeding in India which was driven by the military necessity of supplying the cavalry with horses of good quality, as well as by the urge to create a distance from the 'native' horse market and its traders, which the colonialist mind, imbued with racist views, looked upon with fear and distrust (ch. 1). The prevalence of this distrust shows in the repudiation of co-operation and reliance on 'natives' which, as it would have limited expense, would have been congruent with the financial prudence of early colonial bureaucrats. Instead, the principle