

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.

**Malcolm Nicolson**

University of Glasgow, UK

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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

of keeping investments low paired with the decision to circumvent the existing market sealed the fate of this early colonial attempt in the sphere of horse breeding, which was consequently doomed to fail. Nevertheless, the strong interest in mastering horse breeding in India, alongside a growing concern for the preservation of military horses, promoted the attention of British colonialists in the field of veterinary medicine (ch. 2). As the only area of attention, this horse-centrism also remained a severe impediment to veterinary medicine in the decades to come: unlike the situation in Britain, where public concern in times of prevalent epizootics successfully stirred the government into action, in India, cattle mortality brought on by disease remained a blind spot in the gaze of the colonial bureaucrat. Civil veterinary medicine, therefore, evolved late in India (the Civil Veterinary Department was founded only in 1892) and was hampered by a lack of engagement with the plight of the cattle owner. A brief excursion into the methods practised by Indian peasants to combat epizootics (p. 48) which, as is shown, were in some regards well ahead of colonial scientists, provides a needed but briefly presented nuance to the otherwise strong focus on the veterinary system of the Raj.

As the book moves on, the reader is acquainted with the advent of bacteriological research in India, which is told through the foundation and practice of the Imperial Bacteriological Laboratory at Muktesar (ch. 3). This important piece of medical history provides a beautiful illustration of the many ways in which colonial conceptions of the 'native mind' and the tropics revealed themselves in choices about the location of the laboratory, its staff and inventory. A lucid example of the nature of colonial prejudice and misconception can also be gleaned from British colonialists' fear that resistance to bacteriological research would be strong in India, where society was suspected to be sentimentally inclined with respect to the treatment of animals. Mobilised through the Society for Prevention of Cruelty against Animals (SPCA), resistance instead emanated from the metropole.

It is in ch. 4 that the author returns to a main premise of his research and hence a much anticipated elaboration: the importance of cattle to their owners, which exceeds their mere economic value and shows vividly in times of scarcity and famine. With the intention of balancing the book's predominant concern with colonial structures, peasant actions to preserve livestock and mitigate the effects of famine are explored, and the inaccuracy of colonial ideas about the behaviour and mind of the peasant depicted. Knitting the discussion of peasant reaction together nicely with the policies adopted by the Raj, the book offers a new and overdue perspective on colonial (in-) action with regard to famine relief. Mishra argues that Malthusianism, free-trade and financial concerns were able to exert unhindered pressure on colonial attitudes towards cattle relief while in contrast, when it came to relief to humans, these economic theories had to withstand the force of the duties of civilisation and government towards the Raj's subjects.

Although the author rightfully emphasises and demonstrates the heavy entanglement of medical and social history as two fields of historical enquiry, the final two chapters of *Beastly Encounters of the Raj* mark a clear shift in focus and thus a step away from key concerns of medical history towards a greater engagement with social history: the making of class and caste identity (chs 4 & 5). This shift is also accompanied by a turn towards urban life and to the level of consumption of agrarian products – constituting a marvellous addition and complementary perspective to the viewpoint presented so far.

The diversity of themes and perspectives presented in this monograph, however, comes somewhat at the cost of overall coherence, as the book rapidly moves from one chapter to the next, covering 130 years of colonial rule in North India and leaving rather limited

space to remind the reader of the overarching picture. This criticism of the structure aside, the book offers a valuable and arguably overdue historical exploration that convincingly contends that the understanding of the historical genesis of public health in India remains distorted as long as veterinary health continues to be sidelined.

**Joanna Simonow**  
ETH Zurich, Switzerland

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**Robert Aronowitz**, *Risky Medicine: Our Quest to Cure Fear and Uncertainty* (Chicago, IL: University of Chicago Press, 2015), pp. 288, \$26.00, cloth, ISBN: 9780226049717.

In May, 2013 actress Angelina Jolie announced that, diagnosed with a high risk of breast cancer, she had undergone a double mastectomy. Two years later, after a blood test showed a high probability of an early onset of ovarian cancer, she had her ovaries removed. Jolie's announcements have elicited considerable media attention, in many of which she was portrayed as courageous in a 'cancer battle', and since then studies have appeared showing a 'Jolie-effect' on breast cancer screening and elective mastectomy in the UK and the US. The actress's activism also drew critical voices, among them some that questioned Jolie's status as a 'hero' and saw her story rather as one of privilege, because women's access overall to costly preventive and reconstructive surgeries is very limited.

Robert Aronowitz's book, *Risky Medicine* helps us make sense of such contemporary phenomena. The actress's story in many ways embodies the complex underlying issues that the modern understanding of risk in medical interventions and health reveals. It raises questions of how risk assessment has blurred the boundaries of disease and health, of how complex cancer survivorship has become in the past century, and of the economic and social implications of risk interventions.

In this collection of essays, Aronowitz expands on these issues and explores how risk and attempts at its reduction have become central to the experience of health and disease both in individual and collective terms. Through an analysis of various diseases like cancer and heart disease, and of problematic preventive measures such as the HPV and Lyme Disease vaccines, Aronowitz argues that reducing risk is not merely a road to health, but it has become the definition of health itself. He identifies three key aspects of risky medicine: market-driven expansion of risk interventions, the converged experience of risk and disease, and the social and psychological work that public health interventions as risk-reducing procedures carry out.

As the author acknowledges, '*Risky Medicine* has had a long gestation'. The book contains five chapters that have been published elsewhere since 2006: three chapters appeared as journal articles, while two had been included in edited volumes. While the book reflects these varied origins in some inconsistencies and deficiencies (such as only some chapters having conclusions, and the lack of a bibliography), putting previously published essays together with new material gives the author the opportunity to examine the set of problems that risk in medicine poses from a range of perspectives and to track changes over time. Aronowitz takes up the economic implications of risk interventions, the embodiment of risk, the role of pharmaceutical companies in expanding definitions and understandings of disease through a risk-centred approach, and the effectiveness of risk-reducing measures.