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Susan D. Jones, *Death in a Small Package: A Short History of Anthrax*, Johns Hopkins Biographies of Disease (Baltimore: John Hopkins University Press, 2010), pp. 352, \$24.95, hardback, ISBN: 9780801896965.

Jeanne Guillemin, *American Anthrax: Fear, Crime, and the Investigation of the Nation's Deadliest Bioterror Attack* (New York: Times Books, Henry Holt and Company, 2011), \$27, hardback, ISBN: 9780805091045.

There is something undeniably chilling about reading Susan Jones' short and engaging history of anthrax; not least when she points out that, throughout the findings of her research on the disease, 'the single most profound reaction over time has been perpetual fear of potential outbreaks and downright terror when signs of disease emerged' (p. 40). Yet, Jones argues, far from being consistent, the nature of this fear has itself changed over time as the disease has changed. There are two interweaving strands to her argument. First, she argues that there has been a steady 'domestication' of anthrax. While domestication might imply pacification, far from it, this process of 'bringing an organism into close relationship with human populations (often by way of animal populations)' (p. 45) has not diminished the power of the disease. It has transformed it. So, a second, related, strand of the argument is that domestication involves a transformation in the identity of anthrax over time. As researchers struggled to understand anthrax as a primarily soil-bound disease of livestock, they also altered it – and here Jones deftly and accessibly covers familiar territory (Koch, Pasteur and so on) that places anthrax research in the history of germ theory. As an aside, this part of the book is a gift to anyone teaching students about actor-network theory, as Jones' account provides a very accessible and contextualised overview of what is covered in a far more theoretically dense way in Latour's seminal stories about Pasteur.

Jones also describes the spread and adaptation of anthrax as a passenger in the growing trade and industrial worlds of the nineteenth century. This journey created a new identity for anthrax, or more accurately it created co-existing identities: an agricultural and industrial disease. New uses and markets for wool, hair and hide, for example in shaving brushes or mattresses, also meant that 'now the disease could be found wherever infected fibers could travel' (p. 85). Towns, rather than fields, become associated with mysterious disease. And the scourge of 'woolsorters' disease was more than just old anthrax industrialised, it added inhalational anthrax (with its own portals of entry, course of transmission and degree of lethality) to cutaneous and intestinal anthrax caused by cuts or ingesting infected meat. Jones' account guides readers through the routes that researchers took to establish these links between pneumonia in the factory and agricultural anthrax.

Into the twentieth century, *Death in a Small Package* becomes death in a deliberate package, as Jones describes a further shift in the domestication of anthrax, now as a potential biological weapon. Here, Jones tackles what might be called Whig microbiology. Rather than assuming that anthrax became the first choice in many state-sponsored biological weapons research programmes purely because it was deadly, she explores how the accumulation of knowledge about the disease in the nineteenth century created

the circumstances for its later exploitation as a biological weapon. In Jones' words *Bacillus anthracis* 'was so well established in laboratories, scientists had so much experience with it, and the exigencies of wartime demanded the use of a familiar organism. Cultures of *B. anthracis* resided in state-sponsored scientific institutions, and medical and bacteriological training programmes in several countries used this microbe as a standard organism for teaching' (p. 128). Jones' succinct account of the secret and sometimes bizarre history of twentieth-century biological warfare also attends to the peculiar moral economy within which this work took place. Again, as an aside, anyone looking for empirically grounded teaching material on the ethics of science will find some accessible and thought-provoking discussion in these chapters.

Jones' overview ends up where Jeanne Guillemin begins in her, equally excellent, account of the post 9/11 anthrax attacks in the USA. *American Anthrax* is written for a popular audience, but this account is not journalistic. Guillemin is an accomplished sociologist and her narrative is thoroughly researched and sensitive to the tragedy of the victims. The account follows the crucial events during and after the attacks: the letters, the deaths, the transition from 9/11 to war in Iraq and the subsequent investigation that culminated in the suicide of the FBI's prime suspect, Bruce Ivins, in 2008. Guillemin also captures several senses of reversal that occurred during and after the attacks. To begin with, the initial targets of the attacks were media outlets, which led to the media covering the media in the media. As NBC broadcaster Tom Brokaw, one of the targets of the letters, claimed: 'we are watching a movie – and we're in it'. Moreover, the anthrax attacks yielded yet another new identity for anthrax: as a political autoimmune disease. The very scientists who were most skilled at guarding the USA against biological weapons had become suspects and the targets of the FBI investigations.

American Anthrax explores the high profile story of disease as a weapon of mass disruption. But, above all, one of the many strengths of this book is its attention to the hidden aftermath of the attacks. Concentrating much of the narrative on the afflicted postal workers who handled or worked in the vicinity of the anthrax letters, Guillemin reveals the quiet but deep and long-lasting trauma of people who had been either contaminated or in the contamination zone. In this respect, she records the gradual realisation by postal workers that the very air they breathed and everything they touched was an invisible threat. Subsequent anxiety, fear, loss of sleep and a strange distancing by friends and neighbours are all stories that Guillemin recounts. And that reversal, by which the familiar is transformed into a source of dread, brings us full circle to Jones' observation about fear as the most consistent and profound reaction to anthrax. Beyond the terrible effects of the disease in terms of injury, death and disruption, both *Death in a Small Package* and *American Anthrax* provide valuable insight into that far wider, lingering, zone of fear that emanates from this micro-organism.

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