

BOOK REVIEW

Lukas Engelmann and Christos Lynteris.
*Sulphuric Utopias: A History of Maritime
Fumigation*. Cambridge: MIT Press, 2020.
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In *Sulphuric Utopias* Lukas Engelmann and Christos Lynteris present the “story of a technological contraption, the Clayton apparatus, as a history of sulphuric utopias” (p. ix). The book is a contribution to an important area of research, the history of epidemics, which is destined to expand significantly in the Covid-19 era. However, as the book was written just before the outbreak of the pandemic, the authors had the good fortune to be able to carry out their research unhurriedly, without the pressure to publish as quickly as possible.

The book is divided into seven chapters in which Engelmann and Lynteris study the history of the development, production, dissemination and experimental examination of the Clayton method for sanitary fumigation. Naturally, they contextualize it and consider competing methods of sulphuric fumigation that preceded, coexisted with, or succeeded it. The first chapter provides an account of the history of fumigation and disinfection practices before the Clayton apparatus and traces the development of quarantines in the nineteenth century. Chapters 2, 4 and 5 deal with the development, dissemination and stabilization of the Clayton

machine, and are complemented with chapters focusing on alternative methods: for example, chapter 3 focuses on the deratization technologies developed in Istanbul and Hamburg at the turn of the twentieth century, chapter 6 concentrates on the *Aparat Marot* and its unusual use in Buenos Aires, and chapter 7 deals with the demise of sulphuric fumigation, providing a first insight into the emergence of cyanide fumigation.

One of the key concepts of the book is the idea of a hygienic utopia. Here, the term “utopia” refers specifically to “a utopian vision of a maritime space free from disease” (p. ix). According to Egelmann and Lynteris, the circulation of the Clayton machine led to the decline of quarantine in connection with this specific conception of hygienic utopia; a utopia to which the authors also refer in their concluding remarks as “one in which the capitalist dream of uninterrupted commerce and the colonial imaginary of uninhibited expansion became tied to visions of control over infectious diseases” (p. 200). No doubt, this conception of utopia may serve as an interesting analytical category in ongoing or future historical studies on the introduction of disinfection or disinfestation methods in maritime sanitation.

Despite its specific focus on the “story of a technological contraption,” the book clearly comes under the heading of medical historiography rather than the history of technology. The authors criticize the traditional conception of a bacteriological revolution that would have shifted the attention away from objects towards human bodies. The case of the Clayton apparatus challenges this narrative as well as the idea that the development of bacteriology also fostered a shift of attention away from the environment and toward microbes as the true targets of medical intervention. These are important contributions to the attempts to create a more nuanced big picture of the history of medicine. But even more interesting is the emphasis the authors place on the move from disinfection to disinfestation, which they date to the period after World War I. As a result of this change in focus, sulphuric fumigation gave way to cyanide fumigation; as the fight against rats and fleas took precedence over the fight against bacteria, hydrogen cyanide became more effective than sulphur dioxide. Interestingly, this was not only the outcome of a growing pragmatism but also of a further insight into the complexity of epidemics; infectious diseases were now explained by more ecological concepts rather than by monocausal models.

In recent years, medical historiography has shown the central role played by maritime sanitation and the prevention of epidemics in the national medical policies of the late nineteenth and early twentieth centuries. This was especially important in a context of the clear intensification of a global market in which transoceanic trade was not only limited to luxury products but also increasingly included basic goods. Indeed, basic goods would soon overtake luxury goods in international commerce. Building on this analysis, the book considers the development of sulphuric fumigations based on the Clayton apparatus, which became dominant all over the world in the first decade of the twentieth century. As noted above, the book does not

prioritize its connections with the history of technology, but it does present some relevant data on the parameters that conditioned the success or failure of competing technologies—variables such as risk, the required time of exposure, cost, unwanted effects on the cargo, etc. These data accumulated through the numerous experiments considered in the book, which involved a wide range of stakeholders of different nationalities and from different academic backgrounds. In this regard, the book offers highly relevant information, but by failing to apply a more theoretical approach to the circulation and appropriation of these technologies (see for instance the papers of the *STEP Forum* published in *Technology and Culture* in 2016), or a more in-depth analysis of the specific role of each stakeholder in these processes, it does not develop it or exploit it to the full.

The sulphuric fumigations that form the main focus of the book were not based on a new or unknown substance. As the authors argue, the use of sulphur in therapeutic and hygienic practices has a long history. This is clearly stated in the book but once again a more in-depth theorization is lacking. In this regard the authors might have consulted David Edgerton's *The Shock of the Old* or other masterpieces of the history of technology that might have helped them to go more deeply into issues which, despite their relevance, are treated only very superficially. For instance, the political dimension of the sanitary technologies considered in the book could have been further analysed by considering the discussion introduced by Langdon Winner some forty years ago. Of course, as stated above, these avenues are not explored because the book concentrates on other perspectives from the history of medicine but having collected such interesting material the authors might consider applying these approaches further in future work. To sum up, *Sulphuric Utopias* deals with a “trending topic” by building on rich primary sources in order to raise important issues for a new big picture of the history of medicine, and paves the way for further analyses that could enrich the history of the Clayton apparatus and the narratives of the history of maritime sanitation.