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A Poisonous Legacy The Hidden Story of an Early Experimental Practice

Review of: Alisha Rankin, *The Poison Trials: Wonder Drugs, Experiment and the Battle for Authority in Renaissance Science,* Chicago and London, University of Chicago Press, 2021, pp. 329, ISBN: 9780226744858, € 38,75 (also available in ebook).

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The Poison Trials opens with an account of Pope Clement VII's efforts to test the efficacy of an antidote. Two prisoners were offered marzipan cakes, which, unbeknownst to them, had been laced with the potent poison aconite. Only one of the prisoners was offered the potential cure. While he subsequently recovered, his fellow prisoner suffered a gruesome death that was recorded in detail in a written report of the trial. Rather than an isolated event, this incident was one of a cluster of experiments on human subjects that took place during the sixteenth century to assess the effectiveness of antidotes. These human experiments form the core of Alicia Rankin's study of poison trials, both those conducted on animals, and the rarer examples of those carried out on humans. Her investigations provide her with a means to shed new light on venerable themes in the history of science, including the history of experiment, the construction of intellectual authority, court culture, medical professionalisation, and the role of the medical marketplace in early modern Europe.

The first chapter provides important historical context for interpreting the significance of the sixteenth-century poison trials. It describes not only how poisons were conceived in ancient and medieval societies, but also traces the longer history of efforts to investigate their effects and the efficacy of antidotes. According to legend, King Mithridates VI of Pontus conducted tests on poisons including tests on condemned criminals. A firmer precedent for medieval and early modern Europe was set in a text widely believed to have been penned by the Roman physician Galen. By the time he was writing, testing poisons on human subjects, including condemned criminals, was prohibited, and this taboo persisted until the sixteenth century. Galen also offered an influential model for conducting poison trials on animals. Notably, he advocated dividing the animals into two groups, only one of which had received an antidote, before exposing them to poison. Chapter 2 picks up the story of the first human poison trials at the court of Clement VII. Rankin argued that ancient concerns about experimenting on human bodies were gradually eroded by the dissection of human cadavers for postmortem investigation. The anatomical dissections carried out in the universities were normally performed on criminals. As Rankin stressed, the authors of a published account of Clement's trial presented the act of administering poison to criminals as a test conforming to contemporary religious and legal standards.

The following two chapters situate the poison trials in the historiography of experimentation and empiricism. Prior to the sixteenth century, experimental knowledge, which Rankin defined as 'singular instances drawn from hands on practice' (p. 82) was assigned a lowly epistemic status. This was reinforced by the fact that empirical healers touted cures in the medical marketplace, often by offering dramatic demonstrations of the properties of their wares. Their methods included publicly administering poisons and antidotes to animals and, in many instances, to themselves or a stooge. When learned physicians conducted their poison trials, they felt obliged to show the distance between their investigations and the antics of the lowly empirics, both to enhance their prestige and authority and potentially to secure access to the lucrative trade in medicaments. In Chapter 4 Rankin also considers how contemporaries considered the ethical implications of these experiments, noting that the justifications for these practices were often highly contextually specific. Human poison trials remained a rare phenomenon, however. Rankin estimates that during their heyday, 1560-1590, around six were conducted across Europe, after which they 'fizzled out'. Their contribution to the history of experiment also remained relatively limited, for Rankin concludes that they did not become an "epistemic" medical genre.' (110). Their most lasting value appears to have lain in the fact that they generated written reports which created an extensive collection of experimental records.

The book's final section explores the production, testing and marketing of wonder drugs, that is, substances believed to be capable either of curing one ailment particularly effectively or a panacea. In works such as Johann Wittich's Report on the *Wondrous Bezoar Stone that is Good Against All Poison* (1589), the wondrous healing properties of substances such as the bezoar stone or unicorn horn were considered alongside those of herbs, barks and roots discovered in the New World. Several Catholic princes, including the Emperor Ferdinand I, sought to test the efficacy of these wondrous substances through poison trials. These events served to enhance the princes' power both by signaling their possession of rare and expensive antidotes and by potentially proving their efficacy. The final chapter considers the case of the Panacea Amwaldania, an alchemically produced version of the naturally occurring terra sigillata. In this chapter, Rankin places the new drug within the context of disputes between Galenic and Paracelsian physicians and a new demand for chemical medicines during the sixteenth century.

In this work, Rankin offers a rich and engaging portrait of early modern poison trials. She provides many surprising and fascinating details alongside sobering reflections on the lengths to which humans would go to produce medical and scientific knowledge. What, however, was the broader significance and legacy of these poison trials? They certainly persisted in some form until the modern age. It is, for example, possible to note similarities between not only the regimes of animal testing, but also the entrepreneurial spirit and showmanship of the early modern marketplace that Rankin describes in Louis Pasteur's public demonstrations of the efficacy of his anthrax vaccine in 1881. It is, however, hard to avoid the conclusion that poison trials on human subjects were – thankfully – an isolated and rather marginal phenomenon with limited consequences for the development of medical and scientific knowledge.

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