

Book Reviews

Frederick W. Gibbs, *Poison, Medicine and Disease in Late Medieval and Early Modern Europe* (London and New York: Routledge Press, 2019), pp. xvii + 313, \$144.95, hardback, ISBN: 9781472420398.

Frederick Gibbs' excellent and erudite book provides a systematic overview of how exactly poison was understood in scholarly medical circles in premodern Europe. Gibbs covers the topic over the long durée, from classical Greek and Roman sources to the early modern period, with a particular focus on the fourteenth to the sixteenth centuries. While there has been significant recent research on many aspects of poison in medieval and early modern Europe, Gibbs is the first historian to dive deep into the complexities of how exactly premodern scholarly authors conceptualised poison and poisoning.

Gibbs' central argument posits a gradual shift in the ontological status of poison from the Greco-Roman period, in which drugs were viewed on a continuum with no sharp boundaries between harmful poisons and helpful medicines, to the later Middle Ages, when poison came to be seen as a distinct substance and disease agent. While the *condition* of poisoning was discussed extensively in antiquity, the concept of poison itself emerged slowly and much later. The Greek term *pharmakon* was a famously ambiguous word encompassing both helpful and harmful substances, with no definitive distinctions between them. Various drugs 'could be described as a poison depending on how they were used', but poison was not a 'category of substances that had its own set of properties' (p. 9). That broad understanding, Gibbs argues, continued in the Latin concept of *venenum*. Although texts attributed to the authoritative Greco-Roman physician Galen praised the abilities of antidotes like theriac to counteract inherently harmful substances external to the body, the specific nature and mechanism of *venenum* remained highly ambiguous.

Medieval Arabic physicians mainly clarified and extended the Greek understanding of poison. However, a few scholars, most prominently Avicenna and Averroes, suggested that some deadly poisons could operate outside of the usual humoral framework, through an occult mechanism called 'specific form' or 'total substance'. This notion, which had appeared in nascent form in Galenic texts, posited occult properties in some poisons that could harm the totality of the organism. Gibbs argues that 'total substance' became central to developing the ontological status of poison, as it differentiated poison from other substances.

From the late thirteenth century, European scholars began to wrestle more fully with the distinction between poison and medicine. Gibbs shows how fourteenth-century physicians such as Arnau de Vilanova and Pietro d'Abano began to compose standalone works on poison and (in Arnau's case) on the antidote theriac. This 'new genre of medical text' (p. 104) took shape in the context both of the medieval university and of court culture and patronage, as princes and popes sought to preserve themselves from poison. In the midst of a new focus on *venenum* as specifically harmful, the first wave of plague struck Europe with a vengeance in 1347–51, killing people in such numbers that the usual humoral theory of disease did not provide satisfactory answers. In response, physicians began to theorise plague etiology as some sort of poison or venom that entered the body. Gibbs notes that poison has been undervalued and neglected in studies of disease ontology, and he puts forth a clear and convincing case for why it should be taken into account more fully.

Poison became not just a malicious substance, it became a cause for disease itself, an idea that only expanded in the early modern period.

Gibbs argues that these various nascent ideas of poison as a harmful substance and disease agent came into their full theoretical expression in the fifteenth century, which he portrays as the 'culmination of medieval toxicology' (p. 151). Two early fifteenth-century Italian physicians, Antonio Guaineri and Sante Arduino, solidified the ontological status of poison and the role of 'total substance' in their influential treatises. Gibbs thus calls attention to the significant originality in fifteenth-century medicine, an oft-neglected era. This fifteenth-century scholarship provided the basis for new ideas about disease causation in the sixteenth century.

The longstanding and widespread connection between poison and disease, Gibbs argues, puts the famous poison theories put forth by the Swiss medical rebel Paracelsus into perspective. The idea often attributed to Paracelsus that 'the dose makes the poison' had long been a common understanding, and Paracelsus actually emphasised dosage far less than his concept of a poisonous and a healing part in every substance. At the same time, Paracelsus shifted existing concepts of poison, especially in his focus on the inability of the body to absorb poison rather than the harmful nature of *venenum*.

In varying ways, sixteenth-century physicians put poison at the centre of their disease ontologies. Poison became a common explanation for the French Disease, or syphilis, and French physician Jean Fernel put the 'total substance' of poison at the root of nearly all infectious diseases. In the second half of the sixteenth century, attempts to reconcile the (often divergent) classical and medieval traditions of *venenum* prompted physicians to focus on the specific effects of specific poisons on the body. Gibbs suggests that this effort should be considered more fully in the overall history of toxicology.

Poison, Medicine and Disease is thorough and convincing. Gibbs has consulted well over 200 ancient, medieval and early modern treatises on poison, and he has woven together a clear and coherent trajectory of the status of poison from the ancient world to the early modern period. He demonstrates both the importance of poison to the history of disease ontologies and the centrality of medicine to the history of toxicology. The work can be a heavy theoretical lift at times and thus may be more of interest to the scholar than the general reader, but Gibbs explains the difficult concepts in his texts clearly. His book should be a standard reference work for anyone interested in the history of poison.

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Beth Macy, *Dopesick: Dealers, Doctors, and the Drug Company that Addicted America* (New York: Little, Brown and Company 2018), pp. 384, \$11.99, hardback, ISBN: 9780316551281.

Barry Meier, *Pain Killer: An Empire of Deceit and the Origins of America's Opioid Epidemic*, 2nd edition (London: Penguin Random House, 2018), pp. 240, \$27.00, hardback, ISBN: 9780525511106.

Ben Westhoff, *Fentanyl, Inc.: How Rogue Chemists Are Creating the Deadliest Wave of the Opioid Epidemic* (London: Grove Atlantic, 2019), pp. 352, \$27.00, paperback, ISBN: 9780802127433.

They all start the same: Americana is dying. Immediately, Macy, Meier and Westhoff tell us, the readers, that this is a tragedy. It has characters, heroes and villains that must