

in Fonte's dialogue *The Worth of Women* (1600) describes the interchangeability of the elements, she invokes a basic tenet of Aristotelian natural philosophy — not, as Ray suggests, a process “essentially alchemical in nature.” Nor is it necessary to implicate the heterodox medical reformer Paracelsus in the commonplace image of the human body as a “little world”. Fonte does innovate by proposing science as an area in which women can excel, but her actual views on natural philosophy seem to be mainstream.

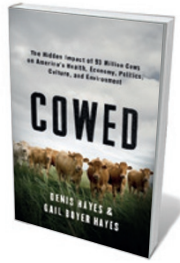
Fonte's orthodoxy contrasts with the attitude of another exceptional woman: Camilla Erculiani, an apothecary whose *Letters on Natural Philosophy* (1584) combined original scientific views (including a natural explanation for the biblical flood) with a staunch defence of women's intellectual capacity. Both author and practitioner, Erculiani sent her book to Poland for publication, armed with a dedication to the Polish queen, Anna Jagiellon. Yet even Krakow was not far enough away for her to escape the attention of the Inquisition. Humiliatingly, at her trial one of Erculiani's supporters used her sex to excuse her unorthodox reading of scripture — arguing that, as a woman, she could scarcely be held to know what she was talking about.

Female authors struggled to establish themselves as natural philosophers. Yet, Ray shows us, they could still make their voices heard as women, whether marketing women's secrets or defending their sex from slander. And they were effective. When Giuseppe Passi launched a misogynistic attack, *The Defects of Women* (1599), Marinella swiftly responded with her own book, *The Nobility and Excellence of Women and the Defects and Vice of Men* (1600). Among his jibes, Passi claimed that women could not ‘do’ science. Marinella out-argued him point by point. Eventually Passi backed off, retracting his more extreme views. Their exchange attracted an audience, and the books were reprinted.

We can learn from this exchange. Marinella's treatise did not extend the boundaries of scientific knowledge, but that was not its aim. Such defences were important because they created an arena for women's voices. By writing about science, Renaissance women argued that they were qualified to write about science. Although they could not emulate Galileo in obtaining university posts, or seek roles as court philosophers, they could and did contribute to Renaissance scientific culture in other ways: as experimenters, readers, commentators, correspondents and critics. In sixteenth-century Europe, as in Ray's timely book, alchemy offered one way into a much larger conversation. ■

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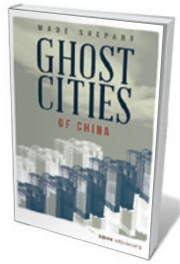
## Books in brief



### **Cowed: The Hidden Impact of 93 Million Cows on America's Health, Economy, Politics, Culture, and Environment**

Denis Hayes and Gail Boyer Hayes W. W. NORTON (2015)

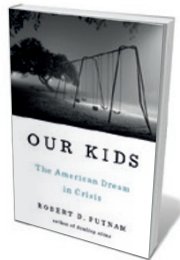
Scattered among the 319 million US citizens are 93 million cows, supplying milk, beef and raw materials for substances from paint to toothpaste. But at a price: ruined soils, lagoons of excrement and significant greenhouse-gas emissions. So argue environmentalist Denis Hayes and environmental lawyer Gail Boyer Hayes in this richly researched overview. Marshalling numerous case studies, they show how humanity could shift from industrial farming to scaled-down, scientifically backed, sustainable animal husbandry.



### **Ghost Cities of China: The Story of Cities without People in the World's Most Populated Country**

Wade Shepard ZED (2015)

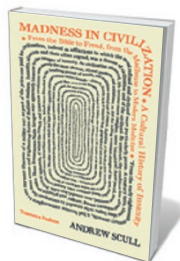
In 1949, China boasted 69 cities; now there are 657. Staggering in scale and set to churn on for 20 years, this experiment in urbanization is leaving a forlorn legacy: ghost towns that have yet to see an inhabitant. In this succinct study of a country bulldozed to make way for generic conurbations, *China Chronicle* editor Wade Shepard dispenses the facts with chilling clarity. As he examines mountains literally moved, relocation on a gargantuan scale and the duplication of Hallstatt, Austria, in Guangdong province, a stunned awe sets in.



### **Our Kids: The American Dream in Crisis**

Robert D. Putnam SIMON AND SCHUSTER (2015)

Political scientist Robert Putnam's *Bowling Alone* (Simon and Schuster, 2000) exposed the increasing fragmentation of US communities. Now Putnam takes on the erosion of social mobility — once the keystone of the American dream. Meshing quantitative data and interviews with young people from the Deep South to the Rust Belt, he explores the class gap and finds that the vicious cycles of economic poverty often lead to political disengagement and lack of access to knowledge. His solutions, such as child tax benefits, inspire — but could founder without 1960s-style reformist zeal.



### **Madness in Civilization: A Cultural History of Insanity, from the Bible to Freud, from the Madhouse to Modern Medicine**

Andrew Scull THAMES & HUDSON (2015)

In this ambitious chronicle of mental illness over two millennia, historian of psychiatry Andrew Scull ranges over the jumbled landscape of “Unreason” with crisp authority. His central argument is that the social and cultural contexts of extreme emotional states “dwarf any single set of meanings and practices”. Insights jostle with horrors as Scull documents attempts to explain, contain and treat madness, from brutal asylums and lobotomies to the nuanced realization that mental illness has dual roots in society and biology.



### **Past Futures: Science Fiction, Space Travel, and Postwar Art of the Americas**

Edited by Sarah J. Montross BOWDOIN/THE MIT PRESS (2015)

The science-fiction boom, cold war and space race of the mid-twentieth century set off a scientific and cultural explosion. Artists across the Americas discovered an alien splendour in the atomic age. This gripping volume showcases curator Sarah Montross's exhibition at Bowdoin College Museum of Art in Brunswick, Maine: from the cataclysmic (Rufino Tamayo's 1954 *Cosmic Terror*) to the rhythmic (Emilio Renart's 1965 *Drawing No. 13*), it is a revelation. **Barbara Kiser**