

earlier in the volume into the future. Although the table format may imply a lack of agency, futures determined via die roll rather than purposeful action, its use here reinforces the collection's theme of working within the game's structures to produce open-ended possibilities.

Fifty Years of Dungeons & Dragons is a strong contribution to an ongoing discussion. Although each essay approaches the game from a unique combination of topic and disciplinary background, the authors and editors have made efforts to place each piece in a dialogue with others using thoughtful structuring and explicit references between chapters. The editors and authors have crafted an accessible entryway into several continuing conversations in academic, journalistic, and industry circles.

—Mirek Stolee, *The Strong National Museum of Play, Rochester, NY*

Playing with Reality: How Games Have Shaped the World

Kelly Clancy

New York: Riverhead Books, 2024.

Contents, epilogue, acknowledgments, notes, bibliography, index. 368 pp. \$30.00 cloth. ISBN 978-0593538180

In *Playing with Reality* Kelly Clancy traces in a single volume the historical trajectories of games and game theory from antiquity to the present day. Clancy is a neuroscientist and a physicist, whose research includes the field of Artificial Intelligence (AI), and hers is a much clearer than usual scientific voice and

approach to the discussion of play and games. Clancy's book appeals to both academic and general audiences, offering accessible language covering a historical spectrum of topics that provides an almost story-like approach to ideas.

Clancy offers an overview and a critique of games that have been embedded in humanity, demonstrating the complex relationship between the history of human development and understanding of the self and the use and development of games. Her critique of game theory asserts that its misused principles have contributed negatively to society. Mathematical rationality and economic ideas based in game theories do not take into account human agency nor social, political, or historical contexts. Throughout the volume, Clancy demonstrates the strong ties games and game theory have to capitalism and economics (particularly to maximized growth capitalism) as well as the ties of the development of AI through computation and computer-learning games to its socio-economic framework. She carves out a space in play and game scholarship for her critical approach as she covers this vast history of games, game theory, war games, and AI. *Playing with Reality* does a wonderful job of bringing these together.

This book is split into four parts that explore distinct aspects of play. The first, "How to Know the Unknown," looks at historical play, exploring play's ties to religion, superstition, and understanding the self. Here Clancy's neuroscience background proves critical. Games offer ways to explore mental agency, helping us understand how we think, the sources of dopamine, and the ways we learn. This section connects our cognition and under-

standing of the physical world around us through games, broadly from antiquity to modernity. Exploring gambling, luck, and games of chance with systems of rewards, Clancy notes that their relationship to divinity persists.

The second section, "Naming the Game," moves from the ambiguous realms of chance and superstition to histories of rationality, the beginnings of game theory, and war games. The section ends with a stark reminder of the nuclear brinkmanship war gaming that has threatened humanity several times and hangs as a specter over politics today. These four chapters underline the importance of game theory and the ways its use and misuse have informed our worldview and had real implications on the development of the geopolitical world through war games.

Part 3, "Building Better Players," covers increased rationality, mathematics, and game theory. Clancy connects the military industrial complex to the development of computers and the eventual use of AI in games. She recognizes that game theory modeling can be linked to natural sciences like biology and evolution, resulting in eugenics. She provides snapshots of history, with stories of scientists, economists, mathematicians, and programmers, culminating in an overview of the battles between professional Go and chess players against game AI, suggesting the field of AI has "encouraged arms race-like dynamics."

Part 4 concerns "Building Better Games," and Clancy discusses mechanisms and design principles such as gamification, trust, and ethics. The chapters link these game design principles to

policy and economics in everyday life, using examples from eBay bidding, public resource auctioneering, and even the social contract itself. Wealthy and powerful people (players) are identified as having the ability or penchant to bend, break, or twist the rules of the game (of life) in their favor. She sees games such as *SimCity* as developing models and rules that get co-opted and forced onto us, often with negative consequences.

Playing with Reality's breadth seems both a strength and a weakness. There is an extensive bibliography, but by covering so many topics, Clancy may sometimes leave readers thinking more exists to discuss about a given topic before she inevitably moves on. The text does not cite directly in-text nor endnote numbers corresponding to the references, making navigating the references difficult. Given the rich and clearly well-researched literature, having direct links to the citations and references would have been beneficial. The volume also lacks a distinct introductory chapter, which might have helped provide a roadmap for the reader. The epilogue does not offer the traditional conclusion. Instead of wrapping up and reinforcing the book's content, Clancy issues warnings about the idealizations of games, game theory, and rationality at the expense of humanity.

Nevertheless, *Playing with Reality* offers a strong overview of the history of games and our playing of games in relation to different understandings of reality. It shows readers the impact games have on society through game theory and economics, as well as how games have been used to further political agendas. It recognizes the challenges that have risen from game-

driven thought and the promises games brought and its critical tone reminds us that games and play never exist in a void. Rather they bring with them a host of socio-political contexts in our engagement with playing and making games. We

should indeed be more conscious of both the positive and negative forces of games and game logic.

—Allen Kempton, *Independent Scholar*,
Whitby, Ontario, Canada