

Looking Forward: Prediction and Uncertainty in Modern America. By *Jamie L. Pietruska*. Chicago: University of Chicago Press, 2017. xiii + 280 pp. Illustrations, list of archival collections and primary source databases, notes, index. Cloth, \$45.00. ISBN: 978-0-226-47500-4.

Reviewed by Giovanni Favero

This book tells an enthralling story of how people coped with the uncertainty of the future in everyday life in the United States between the Civil War and World War I. During half a century, predictions of crops, weather, economic trends, and even daily fortune, from contested attempts to tell the future, became routinized as probabilistic tools for risk management.

This process was indeed part of a larger and longer story: Ian Hacking has traced the rise of probability as a philosophical concept to the mid-1600s (*Emergence of Probability* [1975]), and a large body of literature has inquired on the developments of the “probabilistic revolution” in natural and social sciences, including two edited volumes with this title (Lorenz Krüger, Lorraine Daston, and Michael Heidelberger, eds., *The Probabilistic Revolution*, vol. 1, *Ideas in History* [1987]; Lorenz Krüger, Gerd Gigerenzer, and Mary S. Morgan, eds., *The Probabilistic Revolution*, vol. 2, *Ideas in the Sciences* [1987]). A shift from a deterministic to a probabilistic vision of the world at the turn of 1900 has been highlighted by, among others, Theodore Porter (*The Rise of Statistical Thinking, 1820–1900* [1986]) and Hacking (*The Taming of Chance* [1990]). However, as Jamie Pietruska argues, these studies in the history of science “emphasize the intellectual worlds of the scientific elite and the transmission of their theories,” leaving the transformation of ordinary practices almost unexplored (p. 9).

The aim of the author is indeed to inquire into the production of knowledge about the future in everyday life “as a contested and mutually constitutive process” involving both popular and scientific practices (p. 9). She avoids retrospective judgments discriminating between the two, arguing convincingly that such a distinction did not yet exist and, in large part, emerged from conflicts of the time. As a consequence, the reader can find “Coney Island fortune-tellers and utopian novelists sharing a book with agricultural statisticians, meteorologists, and market forecasters,” showing the different forms that the epistemological conflict over the meaning and nature of forecast may take (p. 11).

The business historian will find here some familiar subjects observed from a novel angle, questioning more or less established assumptions and suggesting unexpected connections between ideas and events. A point of arrival for the book’s narrative is Frank K. Knight’s redefinition of uncertainty and risk (*Risk, Uncertainty and Profit* [1921]), and Pietruska is keen to highlight that if true unpredictable uncertainty offered reward to (Schumpeterian) entrepreneurs, its distinction from

calculable risk emerged gradually alongside new insurance mechanisms fit to cope with the precariousness of life in an industrial society. Where private companies could not find a profit, government intervention would eventually pave the way to stability, as happened with the War Risk Insurance Act of 1917 and the Federal Crop Insurance Corporation in 1938. Weather insurance was also emerging during the 1920s, relying on the establishment of a complex infrastructure for weather reporting and forecasting. The long conflict over its construction is the subject of two dense chapters of the book, which shed light on the difficulties of extending a national, mainly urban service at the local level in the countryside. Moreover, issues concerning timely access to weather forecasts in rural areas, together with the scandals about the manipulation of cotton crop forecasts that are accounted for in the first chapter, highlight little-known motivations for the rise of the Populist movement in the late nineteenth century.

Pietruska's work looks at the rise of the bureaucratic order and rationality described by historians of business and technology, from Alfred D. Chandler to JoAnne Yates, shifting the focus from large organizations to the surrounding society and to the individuals who interacted with and within these organizations as customers, employees, professionals, or citizens. Records of federal agencies and local associations, official and personal papers, and newspapers and novels are mobilized for this purpose. The result is a refreshing picture of the emergence of large structures from the trials and errors made by different actors in the attempt to answer the growing demand for information about the future.

What is more, in the process the same nature of the rationalization effort changed. The core argument of the book is in fact that the new forms of forecasting that emerged in the 1860s aspired to the certainty of prediction but were not able to achieve it. The consequent acknowledgment that uncertainty was an inescapable feature both of modern life and of forecasting itself took decades to be accomplished and went together with the development of new techniques of risk definition and management.

The resistance to the drift toward a probabilistic assessment of weather or crop predictions found a motivation in the need to establish a boundary between scientific forecasting and the claims of fraudulent prophets, whose vague anticipations could always be fulfilled, as were the pretenses of astrologers and clairvoyants to tell the future. At the same time, the long-lasting appeal of predictive certainty in market and business matters motivated the refusal to give up a deterministic explanation of periodicity by famous forecasters Henry H. Clayton and Samuel Benner. Conflicting visions, resistances, misunderstandings, and ambiguities characterized the slow erosion of determinism, showing the difficulty to clear a space for chance in a life haunted by uncertainty.

The changing use of metaphors provides telling clues about the timing of the probabilistic shift. If Benner in 1876 assimilated price cycles to fully predictable astronomic phenomena, in 1901

the director of the Weather Department, Willis L. Moore, drew a more modest parallel between meteorology and medicine, and in 1914 Evangeline Adams could claim that her role as an astrologer was similar to that of the weather forecaster in providing opportunities, and not certainties, to her customers.

The book stimulates further reflections on the emergence of a calculative society. In historical perspective, in fact, “ostensibly objective methods of calculating the future” were “shaped by, and indeed perpetuat[ing], the ideologies, politics, and cultural ideals of their times” (p. 259). As a consequence, these methods expose their users to unexpected surprises, as the author shows in many examples, from the blizzard that hit New York City in March 1888 to the results of the 2016 presidential election.

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