John Rapley. *Twilight of the Money Gods: Economics as a Religion and How it all Went Wrong*. Simon & Schuster 2018. 480 pp. \$19.00 (Paperback ISBN 9781471152757).

Ever since the dawn of the modern era, which heralded the age of modern science, there has been an ongoing debate as to whether economics as the key social science has acquired the credentials to be called a genuine science. The development of modern science from the age of the Enlightenment entailed the birth of Newtonian mechanics, modern chemistry, and the mathematical methods of the calculus—invented by Leibniz and Newton. There were also changes in nomenclature. Natural Philosophy became Natural Science and Moral Philosophy became the Moral Sciences—and finally the Social Sciences or *les sciences humaines* in the case of the French. Auguste Comte's *Positivism* finally established the parameters for the scientific study of all empirically observable phenomena. In this regard, one could also mention J.S. Mill's *The Logic of the Moral Sciences*, as well as Marx's *Kapital*, which he claimed was established on the foundations of scientific socialism.

The new era of modern science also witnessed the transformation of economics from what was known as political economy to economics or economic science. Traditionally, it was believed that economic decision-making, whether by government or group organizations, occurred within the context of politics. The classical British economists, Smith, Ricardo, and Malthus, all expressed their ideas in the context of the prevailing political sociology. The goal of establishing economics as a genuine science was pursued further by Jevons and Walras, known for their elaborate General Equilibrium theory. Lionel Robbins, in *An Essay on the Nature and Significance of Economic* Science (Allen and Unwin, 1932), summed up matters with the following: 'economics deals with ascertainable facts; ethics with valuations and obligations. These two fields of enquiry are not on the same plane of discourse' (143). For Robbins, economics was definitely a science.

Science, according to its definition, has as its task not only prediction but also explanation. In this regard, explanation would require an appeal to empirical laws, postulates and the like. Given the difficulty of doing so in a case where human decision-making is contextually bound, some theorists, such as Milton Friedman, decided to treat economics as a science mainly on instrumentalist grounds. Thus, in the age of Keynes, Debreu, Samuelson, Allais, et al., economics had already evolved into a science from its earlier beginnings as political economy.

This is the context in which John Rapley's text *Twilight of the Money Gods—Economics as Religion and How it all Went Wrong* is to be understood. Rapley argues that despite the trappings of science, and despite the fact that economists are awarded a Nobel prize for scientific work, few economists—despite their misgivings about the success of economics as a science—would label it 'religion and a priesthood' (7). In answer to that skepticism, Rapley states:

Well, think of the role that economics plays in our lives. It offers a comprehensive doctrine with a moral code promising adherents salvation in this world; an ideology so compelling that the faithful remake whole societies to conform to its demands; a road map to the promised land and riches there far beyond what any god could offer; and moral teachings (albeit in a language often intelligible only to a Talmudic caste, complete with its numerology and symbolism). It has its gnostics, mystics and magicians who conjure money out of thin air, using spells like 'derivative' or 'structured investment vehicle.' And like the old religions it has its prophets, reformists, moralists and above all, its high priests, who uphold orthodoxy in the face of heresy. (7)

Rapley is not at all impressed by the fact that the Bank of Sweden awards an annual Nobellike prize for those economists who have made significant contributions to 'economic science.' As he puts it, that prize is a 'Nobel in name only,' given that it is awarded separately from the original Nobel prizes. His conclusion is that 'in reality, economics is wholly unlike any other science that exists. In fact, when you look under the bonnet, you'll see that it hardly resembles science at all' (7). But the economics profession still plods on with the assumptions that humans are 'self-interested, rational, essentially individualistic, and prefer more money to less' (7). While the history of science is linear, as Rapley states, 'economics, however, moves in cycles. A given doctrine can rise, fall and then later rise again" (9).

It is in this context that Rapley guides the reader through the lived history of economics from its early days when it was known as political economy to contemporary times where it presents itself as a highly mathematical discipline, giving the appearance of a species of engineering. However, Rapley prefers to view theoretical trends in the discipline as being guided by political events. It is in this context that he analyzes the works of classical British political economy, the works of Alfred Marshall, one of the founders of neoclassical economics, those of Keynes as he sought to solve the economic and political problems brought on by the Great Depression of 1929. This was the starting point for the continuing debate between monetarism as expounded by Milton Friedman and the macroeconomic paradigm according to Keynes. In this mix, there would be discussions of Karl Marx with his 'cyclical view of history, in which progress occurred through conflict, crisis and resolution' (105). Marx, as a philosopher-economist, certainly had a great impact on the ideas and actions of Lenin, the intellectual architect of the Russian Revolution of 1917. Rapley then proceeds to offer an economic history of the Soviet Union from Stalin to Gorbachev.

During his discussions of the differing paradigms, each with its key expounders, Rapley always sees fit to compare the different conflicting paradigms with what he perceives as similar ones in ecclesiastical history. He writes: 'As a result, the "marginal revolution," as economists today call it, was a bit like Martin Luther's Reformation applied to political economy: a restoration of the foundational book's authority' (105). Throughout his detailed discussions, Rapley's implicit message is always that economics was most meaningful in its traditional guise of political economy. The problematic of economics as a science was no better underscored by the award of the Nobel Economics prize in 2013. The prize was won simultaneously by Robert Shiller and Eugene Fama for developing diametrically opposed theories concerning market behaviour. Fama's hypothesis was that 'markets always got the price right,' while for Shiller 'markets frequently got the price wrong' (402). Rapley again stresses his thesis that economics can be understood as a religion with his observation that 'in economic theory, very often, you believe what you want to believe—and as with any act of faith, your choice of heads or tails will as likely reflect sentimental predisposition as scientific assessment' (404).

Despite the attempt by Robbins to establish economics as a science, it continued to be plagued with epistemological concerns. The early attempts to measure utility cardinally failed because its existence could be calibrated only introspectively. The concept of the 'util' could not be instantiated empirically. Yet, today, most textbooks on microeconomics persist in assuming that the 'maximization of utility' is founded on a measurable utility. It was later argued that on account of the issues with cardinal utility, it would be more epistemologically acceptable to measure according to the principle of empirically observable choice, that is, ordinally. This was the basis for Samuelson's 'revealed preference theory' and Herbert Simon's 'bounded rationality' model.

These were all attempts to anchor economics on secure scientific foundations and to jettison the homunculus *homo economicus* as the artificial actor in economic decision-making. Still, despite

the attempts by Samuelson and others in this regard, the issues of explanation, prediction and so on still remained. These considerations pushed later theorists to found the novel school of economic theorizing known as behavioral economics. The basis for this novel approach was that human decision-making both at the micro and macro levels was intrinsically unpredictable. With billions of neurons firing simultaneously and perhaps randomly for each individual, human behavior would be essentially unpredictable. Added to this would be the fact that the ultimate explanation for any human choice would have to appeal to neuronic brain states. We are back to the original issue of how to correlate subjective sensate states with their neuronic correlates. Such, of course, is not the way ethologists study animal behavior, whose choice paths are much more easily predictable.

It is for this reason that behavioral economics works closely with neuroeconomics and cognitive psychology in an attempt to treat economics as scientifically as possible. The human mind, however, just does not work in ways that are tentative toward research theories. Even when the evidence is certainly not robust, thinking becomes committed to particular paradigms. It is on this basis that commitment to economic theories resemble commitment to religious theories regardless of epistemological mettle.

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