

A PROVOCATIVE PREFACE

In his magisterial two-volume *Types of Economic Theory* Wesley Clair Mitchell, Columbia University American Institutional economist, business-cycle economic historian, historian of economic theory and founder of the National Bureau of Economic Research, wrote that the process that constitutes the development of the social sciences is an incessant interaction between logically arranged ideas and chronologically arranged events.

Since modern science is an evolving cultural institution, this memorable Institutional refrain can be modified to apply to philosophy of science: The process that constitutes the development of philosophy of science is an episodic interaction between logically arranged ideas in philosophy and chronologically arranged events science. For the contemporary pragmatist philosopher of science the most important episodes in twentieth-century science are the two great scientific revolutions in physics – Einstein’s relativity physics and Heisenberg’s quantum physics – with the latter’s the more influential for philosophy.

This third edition of my *Twentieth-Century Philosophy of Science: A History* is a revised and enlarged edition of my 1995 print book titled *History of Twentieth-Century Philosophy of Science*, which is now out of print. The greatly expanded “Introduction” chapter set forth herein as “**BOOK I**” summarizes the fundamental principles of the contemporary pragmatist philosophy of science, and includes discussion of the recently emergent specialty called “computational philosophy of science”. Each of the remaining chapters, **BOOK II** through **BOOK VIII**, focuses upon selected authors who have influenced twentieth-century philosophy of science.

BOOK VIII on mechanized discovery systems is distinctive, because its subject still has little representation in the literature of academic philosophy. Computational philosophy of science is demanding, because it requires a working competence both in computer systems and in basic research in an empirical science. However, few academic philosophers have acquired such competencies, even though the system designs are manifestly relevant to philosophy of science. To date **functioning** discovery systems that have been used in science (including my **METAMODEL** system) have been developed by scientists working in their specialized sciences.

Nonetheless in the twentieth century's latter decades computational work has gradually been producing a paradigm shift in philosophy of science, especially in the linguistic-analysis tradition. But if computational analysis is not fully embraced as the cutting edge in academic philosophy of science due to philosophers' intellectual lethargy, then the mechanization agenda will be taken over by currently contributing cognitive psychologists.

This book has its origins in my independent philosophical reflections during and especially after my thirty months in the graduate school of philosophy at the University of Notre Dame, South Bend, Indiana. Having received a Masters degree in economics I had anticipated that my doctoral dissertation in philosophy would set forth a computerized discovery system simulating the Keynesian revolution in economics. 1980 Nobel-laureate econometrician Lawrence Klein's *Keynesian Revolution* (1947) indicated the proposal's feasibility.

Nearly all of the mechanized discovery systems described in this book were written as Ph.D. dissertations – all, that is, but mine. Notre Dame's Philosophy Department Chairman, a Reverend Ernan McMullin, and the faculty he has hired found my ideas scandalous. They demanded that I recant my metaphysical realist philosophy (See BOOK I, Section 3.36). After initiating a denial that he wants “to play God”, this Reverend Chairman questioned my seriousness, accused me of a “bad attitude”, threatened that if I persisted in my ideas I could never succeed with his faculty, and issued his ultimatum: get reformed or get out. I got out.

I then undertook development of my computerized **METAMODEL** discovery system at San Jose City College in San Jose, California while taking nondegree coursework in applied numerical methods in **FORTTRAN**. In less than a year I had successfully completed the system, and had simulated the discovery that was the Keynesian revolution in the history of economics. Afterwards I published the findings in my monograph *Introduction to Metascience: An Information Science Approach to Methodology of Scientific Research*.

For more than thirty years I applied my discovery system occupationally as a research econometrician in both business and government. My work in economic analysis and strategic planning during those years occasioned my evolution from a romantic neoclassical economist into a pragmatic Institutional economist, an evolution enabled by my discovery system and vindicated by its practical achievements. My

discovery system made my research career an exciting and successful exploratory empiricist adventure while providing an economic benefit for my several satisfied employers and clients.

Contemporary pragmatists shun undecidable disputations such as those demanded by the Notre Dame philosophers. The contemporary pragmatist philosophy of science is consequential for the practice of basic research in empirical science, and computational philosophy of science enhances this enabling effectuality. In 1976 I applied my discovery system to sociologically relevant longitudinal data describing the history of the American national society for the period 1920 through 1972. In that same year the U.S. Commerce Department had published the needed longitudinal data in its *Historical Statistics of the United States*. My discovery system developed a quantitative post-classical functionalist macrosociometric model describing the stability conditions, patterns of interinstitutional interaction, and outcomes of institutional change in the American national society during the mid-fifty years of the twentieth century.

I then wrote a paper describing the discovery-system-generated macrosociometric model, and submitted it from 1978 through 1982 to four peer-reviewed sociological journals, namely *Sociological Methods and Research*, *American Journal of Sociology*, *American Sociological Review* and *Social Indicators Research*. All four journals rejected the paper. “**Appendix I**” in **BOOK VIII** is the submitted paper describing the model and its findings. “**Appendix II**” relates the referees’ criticisms together with the editors’ rejection letters and my rejoinders. **Appendix III** is my critique of the peer-reviewed sociology literature.

These issues are larger than between a single writer and his critics, or they could just be dropped. The referee criticisms are an exposé of academic sociology’s institutionalized retardation. Unsurprisingly the Swedish Royal Academy still does not view sociology as having matured into a real science, and thus does not award their Nobel Prize to sociologists. Furthermore for decades sociology, an academic occupation notorious for its consensus ideology and coercive conformism, has exhibited retardation and decline. Consider the following Cassandrian omens appearing in both sociology’s academic literature and the popular press:

- In 1989 Joseph Berger reported in “Sociology’s Long Decades in the Wilderness” in the *New York Times* that universities have disbanded their sociology departments and that the National Science Foundation has

drastically cut back funding for sociological research. He reports that since 1970 the number of bachelors degrees awarded with majors in sociology has declined by nearly eighty percent, the number of sociology masters degrees by sixty percent, and the number of sociology doctorate degrees by forty percent. Data that I obtained from the United States Department of Education, Office of Educational Research and Improvement corroborate Berger's reporting.

- In 1993 University of Buffalo sociology professor Mark Gottdiener criticized sociological theory in his paper "Ideology, Foundationalism and Sociological Theory" in *Sociological Quarterly*. He reported that academic sociology is merely about power games among theorists seeking to construct "grandiose narratives" to sustain their status in an intellectual community.

- In 1998 University of Virginia sociologist Donald Black addressed the American Sociological Association's annual meeting. In his address, later published in *Contemporary Sociology* as "The Purification of Sociology", Black called for a Kuhnian-like scientific revolution against classical sociology with its social-psychological ideology.

- In 2012 in "Education for Unemployment" Margaret Wentz reported in the *Globe and Mail* that there are currently three sociology applicants for every sociology job opening, and concluded that sociology students have been "sold a bill of goods". And in 2015 she lamented the fate of sociology professors who are fooled into believing that they might have a shot at the ever-shrinking tenure track, and who even if successful will merely be "masters of pulp fiction".

- In 2013 Yale University sociologist and cognitive scientist Nicholas Christakis wrote a *New York Times* OP-ED article titled "Let's Shake Up the Social Sciences". Therein he maintained that while the natural sciences are evolving, the social sciences have stagnated thereby stifling creation of new knowledge, and that such inertia reflects insecurity and conservatism.

Twentieth-century *fin-de-siècle* sociology has sunk into moribund stasis due to its anachronistic philosophies of science including particularly its dogmatic social-psychological reductionism. To date twenty-first century sociology offers no better prospects. Sociological "theory" is a charade – a caricature of basic research in successful empirical science. Instead of "purification" Black should have said "purgation". Likewise instead of "shake up" Christakis should have said, "shake out". Academic sociology

needs a modernizing revolution that is much more fundamental than Black's proposed "purification" of sociological theory. More specifically it needs a pragmatist institutional revolution, which will purge sociology of the intolerant obstructionist enforcers of its social-psychological-reductionist classicism based on prepragmatist semantic concepts of "theory", "law" and "explanation" rooted in nineteenth-century German romanticism.

However the realpolitik is that there is little likelihood of any such revolution purging sociology's complacently ensconced untouchables in their academic establishment. These often tenured incumbents are the rearguard who know that such an institutional revolution would marginalize them in sociology and make them the big losers in academia, victims of the Schumpeterian "creative destruction" wrought by modernizing innovation. Consequently it remains for the Grim Reaper to clear the field of sociology of these coercively obstructionist reactionaries. As Nobel-laureate physicist Max Planck grimly wrote in his *Scientific Autobiography*, a new truth does not triumph by convincing its opponents, but rather succeeds because its opponents have died off; science progresses "funeral by funeral".

In the meanwhile sociology stagnates. But eventually some young opportunistic sociologists, who are willing and able to envision a better future both for themselves and for academic sociology, will adopt the principles of the contemporary pragmatist philosophy of science as set forth in **BOOK I** in this web site. They will be an intellectual vanguard that will transform sociology into a well functioning, productive and reputable twenty-first century empirical science.

Thomas J. Hickey, Econometrician
20 October 2016
Chicago, IL, USA