

A PROVOCATIVE PREFACE

In his magisterial two-volume *Types of Economic Theory* Wesley Clair Mitchell, Columbia University American Institutionalist 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 empirical science is an evolving cultural institution, this memorable Institutionalist refrain can be modified to apply to the history of philosophy of science: The process that constitutes the development of philosophy of science is an episodic response of logically arranged ideas in philosophy to chronologically arranged events in 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 *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, **BOOKS II** through **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 not only in the sciences but also in philosophy of science, especially philosophy 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 with psychological views.

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 an M.A. degree in economics I had anticipated that my doctoral dissertation a Ph.D. degree in philosophy would set forth a computerized discovery system that would simulate the "Keynesian revolution" in economics. 1980 Nobel-laureate econometrician Lawrence Klein's *Keynesian Revolution* (1947) indicated the proposal's feasibility.

Nearly all the computerized discovery systems described herein were written as doctoral dissertations – all but not mine. The Notre Dame philosophy department chairman, a Reverend Ernan McMullin and the faculty he has hired demanded that I recant my metaphysical realism (See: **BOOK I**, 3.36 and 3.37). After initiating a denial that he wants "to play God", the reverend chairman questioned my seriousness, accused me of a "bad attitude", threatened that if I persisted in my unsanctioned ideas I could never succeed with his faculty, and delivered his ultimatum: get reformed or get out! This surreal ultimatum confirmed my growing disillusionment with their philosophy school. Rejecting the Reverend's Faustian bargain, I got out. Notre Dame has always been better at football than philosophy.

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 development of the system, and using the system I simulated the discovery known in the history of economics as the "Keynesian Revolution". I published the findings in my *Introduction to Metascience: An Information Science Approach to Methodology of Scientific Research*.

For the next thirty years I applied my **METAMODEL** discovery system occupationally as a research econometrician working in both business and government. My professional work in economic analysis also

occasioned my evolution from a romantic neoclassical economist into a pragmatic Institutionalist economist, an evolution enabled by my discovery system and vindicated by its practical empirical achievements. My discovery system made my research career an exciting and successful exploratory empiricist adventure while benefiting my several satisfied employers and clients.

The contemporary pragmatist philosophy of science is consequential for basic research in the empirical sciences. And computational philosophy of science greatly enhances this enabling effectuality. In 1976 the U.S. Commerce Department published an extensive collection of longitudinal annual time series in *Historical Statistics of the United States*. In that same year I drew upon those statistics and applied my discovery system to sociologically relevant longitudinal data describing the history of the American national society spanning the period 1920 through 1972. With selections from those data as inputs to my discovery system I developed a quantitative post-classical functionalist macrosociometric model describing the stability conditions, patterns of interinstitutional interaction and outcomes of changes in institutional consensus in the American society during 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** following **BOOK VIII** is the submitted paper setting forth the model and describing its findings with simulations and shock studies. **Appendix II** relates the referees' criticisms, my rejoinders and the editors' rejection letters. And **Appendix III** is my critique of the rôle concepts of the editors of those four peer-reviewed sociology journals.

These issues are larger than between a single writer and his critics, or they could just be dropped. These referee criticisms and editor practices are an exposé of academic sociology's institutionalized retardation. The Swedish Royal Academy still does not recognize sociology as having matured into a real science, and thus does not award their Nobel Prize to sociologists, as they have done to economists for the last sixty years. For many decades sociology, an academic occupation notorious for its consensus ideology and coercive conformism, has exhibited protracted retardation. Philosophers of science need not trot out alchemy or astrology to exemplify

prescientific scribbling; they can always exhibit academic sociology. Consider the following Cassandrian omens appearing both in sociology's academic literature and in 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 over the previous two decades 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 published in *Contemporary Sociology* as "The Purification of Sociology", Black called for a Kuhnian-like scientific revolution against classical sociology with its social-psychological reductionism.

- In 2012 in "Education for Unemployment" Margaret Wentz reported in the *Globe and Mail* that there are three sociology applicants for every sociology job opening, and concluded that sociology students have been "sold a bill of goods". In 2015 she lamented that sociology professors are fooled into believing that they might have a shot at the ever-shrinking tenure track, and that even if successful they are merely "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. He might have added – it also reflects complacency and indolence.

Twentieth-century *fin-de-siècle* sociology has sunk into decadence due to its anachronistic philosophies of science including particularly its dogmatic social-psychological reductionism. To date twenty-first century sociology offers no better prospects. Instead of “purification” Black should have said “purgation”. Likewise instead of “shake up” Christakis should have said, “shake out”.

Academic sociology needs a reforming revolution that is much more fundamental than Black’s proposed “purification” of sociological theory. More specifically it needs a pragmatist institutional revolution – a radically new philosophical consciousness that will purge academic sociology of its intolerant obstructionist enforcers with their prepragmatist semantic concepts of “theory”, “law” and “explanation” rooted in nineteenth-century German romanticism. Like the twentieth-century economists, today’s sociologists must learn to recognize the macro perspective that is not just an extension of their classical social-psychological theory.

However the realpolitik is that there is little likelihood of any such revolution purging sociology’s complacent incumbents from their academic sinecures. These often tenured professors are the rearguard who know that such an institutional revolution would marginalize them and cost them their status and opportunities in academia, thus making them victims of the Schumpeterian “creative destruction” inflicted by innovation. Consequently it remains for the Grim Reaper to clear the field of sociology of these 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; or as he also said, science progresses “funeral by funeral”.

But eventually a few young opportunists 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** below. Then they will become the vanguard that transforms sociology into a well functioning, productive and reputable twenty-first century post-classical empirical science.

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