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Introduction to *Recent Developments in Economic Methodology*

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Introduction

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These three volumes are a successor collection to the Elgar Critical Writings in Economics three volumes, *The Philosophy and Methodology of Economics*, edited by Bruce Caldwell that appeared in 1993. Caldwell's volumes were intended to collect together in one place the most important papers in the field that had not appeared elsewhere or in previous anthologies. Together with work in books which Caldwell identified in an appendix, the idea was that all the writing in methodology and philosophy of economics from the classics through the early 1990s would be comprehensively identified. In the decade since then, however, the explosive growth of the field has made a more selective compilation necessary for this three-volume collection. One reflection of this growth was the replacement of the Bulletin of the International Network for Economic Method publication, *Methodus*, by the Network's *Journal of Economic Methodology*, first published in 1994 and now published on a quarterly basis. The emergence of *JEM* in many ways signaled the coming of age of the methodology and philosophy of economics as a field within economics. But methodology and philosophy of economics papers have also increased in number and in their variety of locations, so much so that the field has become widely recognized as a central aspect of debate about economics.

The papers collected here accordingly reflect recent change in focus and the scope of investigation in the field. Some papers deepen developments that were ongoing at the time of Caldwell's collection – Volume I is devoted to these contributions. The papers in Volume II are transitional, and constitute extensions of past concerns combined with the introduction of new directions of investigation stemming from those concerns. In contrast, the papers in Volume III represent relatively new areas of interest. Whereas much of methodological research since the influential surveys of economic methodology by Mark Blaug (1992 [1980]) and Caldwell (1982) has appraised and evaluated economics prescriptively as a science as a whole from an economic methodology and general philosophy of science vantage point outside of the science, in many of the papers in Volume III methodologists focus rather more on describing the kinds methodological arguments that economists themselves have employed, either implicitly or explicitly, in connection with the ways in which they have pursued economics. The difference involves both a shift in orientation from prescription to description, and a new attention to the kinds of methodological questions that economists themselves have raised alongside those methodologists have traditionally raised. In what follows here I briefly review the contents of the three volumes.

Volume I

Part I, 'Popper and Lakatos', continues what has been arguably the single largest subject of concern for methodologists, as well as the most widely recognized subject in methodology for most economists. Caldwell's paper offers an excellent summary of Karl Popper's contributions, including those on falsification and demarcation, situational analysis, and his critical rationalism. The focus, moreover, is specifically methodological in the sense of Popper's philosophy of science, with more philosophical questions regarding epistemology and ontology set aside to highlight Popper's greatest impact. Papers by Mark Blaug and Lawrence Boland then appraise and defend Popper's work, Blaug in defending it against the more recent constructivist response, and Boland in distinguishing the more familiar and popular view of Popper as a falsificationist from the less familiar 'Socratic' Popper associated with seeing science as a process best approached in a spirit of critical rationalism. Roger Backhouse then provides a comprehensive statement of Imre Lakatos' widely accepted Methodology of Scientific Research Programme extension and development of Popper.

Part II is devoted to one of the leading alternatives to the Popper–Lakatos framework, the rhetoric and discourse approach to methodology, particularly as pioneered by Deirdre McCloskey. McCloskey gives her own summary account of the rhetoric approach, reflecting the development of her views in her first three books. The papers by Vivienne Brown and Maurice Lagueux then represent new extensions of the approach. Brown's influential paper opened up new avenues of analysis in the history of economic thought, in the process generating broader debate over historiography as the methodology of the history of economics. Lagueux gives a close reading of a key vehicle in the rhetoric and discourse approach, namely, metaphor, and asks about the natural life of metaphors, their emergence, evolution and ultimate domestication. Finally, Uskali Mäki challenges the rhetoric and discourse approach from a well-established vantage point in economic philosophy: realism. His paper accordingly creates a segue to that topic in Part III.

Realism has had two leading proponents in economic methodology in the last decade – Mäki and Tony Lawson. Mäki distinguishes a variety of different ways in which realism may be understood to operate in economics, and uses this to identify a large number of economists who can be said to be realist in one way or another. In contrast, Lawson pursues one particular philosophical approach to realism – transcendental or critical realism – that looks beyond event regularities which empirical science produces to focus on underlying structures and mechanisms as the proper object of economic study. Lawson's paper is a response to the paper by Dan Hausman, who doubts that most varieties of realism are relevant to economics on the grounds that economics does not postulate unobservables in the way that physics does. He does allow, however, that there is a good case for being realist about causes, thus pointing the way to Jochen Runde's application of realist reasoning to causal explanation. Runde, then, sees causal explanations as answers to why-questions which are requests for additional information about dispositions, capacities and propensities – in short, a request for information about causal mechanisms.

In Part IV, the course reverses with the current leading alternative to realism in economic methodology in the form of constructivism, particularly as developed in the sociology of scientific knowledge (SSK). Constructivism is the view that reality is invented in the process of theorizing rather than being something given which is represented in theory, and consequently much constructivist or SSK research is applied investigation of specific theoretical developments. Wade Hands provides a classic discussion in his examination of Roy Weintraub's *Stabilizing Dynamics* that itself provides a constructivist account of the history of stability theory that begins with the works of John Hicks and Paul Samuelson in the late 1930s. Francesco Guala shifts the focus to the effect of economics on constructing social reality in his examination of the US Federal Communication Commission's sale of spectrum licenses guided by the results of game theory modeling and laboratory experimentation. Matthias Klaes then asks how the history of economics is itself constructed via the emergence and spread of concepts (his example is the concept of transaction costs) empirically traceable as occurrences of citations in economics literatures. Finally, Bob Coats provides a synthetic overview of the 'social' approach to economics and economic methodology, giving a history of the development of the approach, and culminating in 'second generation' SSK in the form of the economics of scientific knowledge (ESK).

It is from this last perspective that Part V should be viewed. An 'old' economics of science developed by Kenneth Arrow and others simply applied standard tools of welfare economics to science. The 'new' economics of science pursued by Partha Dasgupta and Paul David – one version of ESK – looks at science as the product of one form of social organization they call 'open science' which operates in terms of a distinct type of reward system that emphasizes priority and transparency. James Wible links this argument to the organizational and institutional structure of science in terms of the unique market forms it assumes that create 'epistemic capital', as well as in terms of government action aimed at correcting market failure in general in the marketplace of ideas. Esther-Mirjam Sent then comprehensively surveys and critically evaluates the economics of science at the close of the 1990s.

Part VI closes Volume I and the discussion of constructivism, SSK and ESK with an examination of one of the most difficult methodological issues in this general approach: the reflexivity problem. Since SSK and ESK aim to explain the practices of scientists in terms of their social and economic interests, do the social and economic interests of philosophers of science and economic methodologists undermine their claim to provide an objective analysis of science? Steve Woolgar states the problem and offers the first response, namely, that the old, detached epistemological stance must be rejected, and we must accept perspectivism and the inevitable result of reflexivity. Sent then transfers these puzzles into the explanation of rational expectations in economics in the work of Thomas Sargent, and asks why should we regard economists as privileged vis-à-vis economic agents, and indeed – symmetrically – why should her readers regard her as privileged in her reading of Sargent vis-à-vis Sargent? Mäki then generalizes the issue by asking whether economics in its practices as a science lives up to its traditional free-market convictions, taking a leading proponent of this conception, Ronald Coase, as his exemplar. Finally, John Davis and Klaes create a general framework for examining reflexivity in economic methodology by distinguishing four levels of reflexivity, and arguing that paradoxes of reflexivity may sometimes be disarmed by separating out these different levels.

Volume II

Parts I, II and III of this volume fit together to show how past core concerns in economic methodology have helped generate new fields of investigation within the field, especially as associated with heterodox economics traditions. Parts IV, V and VI then raise three over-arching, core issues about the nature of standard economics that parallel recent developments in new research programs in economics.

Feminist economic methodology – the subject of Part I – draws on constructivist arguments in methodology and philosophy of science in asking how gender has influenced economic theory. In a classic argument, Julie Nelson examines how discourse in economics, as historically produced for the most part by men, elevates terms associated with masculinity while devaluing terms associated with femininity. Diana Strassmann emphasizes the idea of interpretive communities, and asks why the economics profession should see itself as a free and open intellectual marketplace when men's values, power and interests create restrictions on what constitutes acceptable rhetoric in economics. Sandra Harding then answers a frequent charge that feminist research is less objective than conventional research by arguing that feminist research does not introduce values and interests so much as identify ones that are already there. 'Strong objectivity' is thus the product of socially situated knowledge while 'weak objectivity' is linked to an illusory value neutrality. Lawson's paper is a response to previous feminist commentary on his effort to engage feminist methodology with critical realism's ontological perspective, and brings together important points of agreement and disagreement between these two current directions in methodology. Finally, Edith Kuiper provides a general synthesis and evaluation of the direction and possible development of feminist economics, commenting on Nelson, Strassmann, Harding, Lawson and others, particularly on the relation between epistemology and ontology in feminist economics.

Part II examines a collection of related developments in Marxism, postmodernism, poststructuralism and postcolonialism. Marxist methodology has undergone a dramatic transformation in recent years, and the papers in this section review the main developments. William Milberg and Bruce Pietrykowski begin by arguing that, contrary to what many assume, poststructuralist and feminist theories are highly compatible with Marxian and neo-Marxian theory, particularly in their implicit shared account of the relation between the individual and society. Jack Amariglio and David Ruccio enlarge this general framework by arguing that what distinguishes postmodern Marxism is that it rejects unstable dualistic conceptual strategies and focuses attention on postmodern moments with a nihilistic potential to uncover the weak links in the totalizing stories of conventional neoclassical and Marxist theories rooted in classical epistemology. In something of a counterpoint contribution, Geert Reuten then introduces the new critical Marxist theory literature on historical materialism that takes exploitation and social and political domination to be over-riding concerns, and explains this framework in terms of its often under-appreciated philosophical underpinnings of Marx's systematic dialectics. Two additional papers in this section shift attention back to postmodernism and an even more recent postcolonialism. Arjo Klamer takes modernism and contemporary economics as his object of investigation, and sees New Classical economics as late modernist in its removal of economics' traditional objects of concern: the Keynesian meta-narrative of public welfare and the economic subject itself. S. Charusheela distinguishes postmodernism from postcolonialism where the latter involves examination of culturally and historically constituted frameworks marked by the categories of domination and subordination, and then identifies the shared commitments and divergences between the two, particularly with respect to postcolonialism's anti-essentialist ethical universalism.

Part III brings together the first half of Volume II with a general examination of methodological pluralism and the idea of open systems. Sheila Dow sets the stage with her review of dualistic methodology in mainstream economics, and proposes a non-dualistic model of thought that would not only promote more tolerance among economists but also provide a sounder methodological basis for economic theory. Warren Samuels argues in favor of multiple methodological (and epistemological) positions in economics in terms of the absence of meta-criteria by which to choose between alternative methodologies, and as a means of addressing such antinomies as exist between induction and deduction, rationalism and empiricism, and realism and nominalism. Brian Loasby then discusses the nature of knowledge itself, explains it as an open system ever subject to Knightian uncertainty, and describes the creation of knowledge in terms of the search for connections, patterns and their coherence.

The first of the three over-arching, core issues about the nature of standard economics examined in the latter half of this volume concerns the rationality assumption in economics. Stephen Morris begins by reviewing the history and role of the Bayes rule common prior assumption in economics, critically scrutinizes the arguments in its favor, and then considers the insights provided by models with heterogeneous prior beliefs. Dan Hausman targets the main representation of choice in economics in the form of the revealed preference notion. He argues that the notion is fundamentally unclear, illustrating this with respect to its application to game theory. Robin Cubitt, Chris Starmer and Robert Sugden take on the 'discovered preferences' hypothesis developed to insulate expected utility theory from disconfirming experimental evidence regarding the independence axiom, and carefully examine issues of control and experimental design needed to assess this experimental evidence and whether preferences underlie choices or are constructed in the process of making them. Shaun Hargreaves Heap's paper offers a departure from standard thinking about rationality by considering the role that a reflective capacity that individuals might exercise to generate a sense of self-worth would play in decision making. He links this to the explanatory shortcomings of standard treatments of prisoner's dilemma, coordination and battle of the sexes games.

Part V concerns a growing field of investigation spun off from interest in rationality, namely, the status of agents and their cognitive capacities. Davis raises the issue of the ontological status of the agent in economics by applying personal identity analysis from philosophy to the standard conception of the individual. Philip Faulkner then examines the individual as an intentional human agent in terms of recent developments in psychology as applied in the behavioral finance literature and in connection with the work of the philosopher John Searle's idea of background capacities. Faulkner's paper also draws on critical realist ideas. Finally, Jack Vromen enlarges on the cognitive science re-assessment of the characteristics of individuals as developed in recent behavioral economics by adding evolutionary psychology to the mix to bring evolutionary theorizing in general to bear on the explanation of agents and decision making.

This evolutionary focus is the subject of Part VI. Geoff Hodgson comprehensively surveys the development of evolutionary concepts in economics in the movement from their initial appropriation in Darwinian form to their revaluation and more sophisticated appraisal. Ulrich Witt builds on this examination of Darwinian ideas to advance a continuity hypothesis regarding the role of the evolution concept in social cultural systems beyond the role of the concept in nature. Witt also reviews the parallel development and appraisal of the evolution concept elsewhere in science. Part VI closes with Vromen's critical evaluation of what a specifically ontological focus can bring to resolving debates over evolutionary theorizing for economics. We are thus left after these papers with a sense of the open-endedness of methodological reasoning in terms of evolutionary ideas.

Volume III

The papers in this volume open up a new set of research questions in economic methodology. They also turn the focus to methodological issues as they arise directly in economics, putting aside to a degree methodologists' original emphasis on broad philosophy of science concerns.

Part I is devoted to an issue especially crucial in economics: the role of assumptions in the elaboration of economic models. Mäki provides a basic framework for examining and evaluating how economists make assumptions in models in his method-of-isolation approach. The paper provides a taxonomy and analysis of multiple methods of isolation, and then links all this to the question of truth. Nancy Cartwright compares physics and economics in terms of the use of the *ceteris paribus* clause, and then links differences between the two to the status of laws in each. Marcel Boumans' paper emphasizes the discovery process in the construction of models from heterogeneous ingredients, and then argues that a model's justifications are built into it in the process of its construction. Sugden looks at two influential models in economics – George Akerlof's market for 'lemons' and Thomas Schelling's model of racial segregation – in order to argue that economic models are neither abstractions from nor simplifications of the real world. Rather, models constitute counterfactual worlds that are credible to the extent that inductive inference allows us to move from the model to the real world. Mary Morgan then argues that models cannot be fully understood without grasping the narrative framework within which they operate. The stories told in the elaboration of models are thus not simply persuasive devices but integral to the models themselves.

Part II addresses econometrics. Philip Mirowski shows that recent methodological disputes amongst econometricians depend upon a sequence of differing conceptions of the empirical process nowhere spelled out in detail, and uses a conception of critical postmodernism to compare practices across physics, psychology and economics. McCloskey and Steve Ziliak examine the tendency in economics to conflate statistical significance and economic significance, a distinction absent from most econometric textbooks. Indeed, the concept of economic significance seems to have all but vanished from recent texts. Kevin Hoover and Stephen Perez turn to the practice of data mining and distinguish three attitudes on the subject, critically evaluating them to identify an acceptable set of practices associated with the LSE school of econometrics. Hoover then closes this section with a general assessment of econometrics and a response to those who believe econometrics is incompatible with a realist perspective in economics.

Part III contains papers on the status of and relationships between microeconomics and macroeconomics, placing particular emphasis on the latter. In an influential paper, Alan Kirman challenges the notion that macroeconomics can be reduced to microeconomics by assuming that the behavior of an economy's many heterogeneous agents can be replaced by the behavior of a single 'representative individual'. Hoover then provides a general ontological assessment of the microfoundations project, identifies its weaknesses, and argues that macroeconomic aggregates exist independently and objectively. Alex Rosenberg sustains this ontological focus with an examination of the implicit metaphysical assumptions made in microeconomics, setting aside the common view of microeconomics as essentially positivist in nature. Finally, Backhouse and Andrea Salanti survey the principal methodological issues that arise in macroeconomics, and make a case for saying that they merit more attention than methodological issues raised by microeconomics.

One important change in recent economics is the revitalization of ethics and normative concerns. Part IV accordingly provides a selection of papers on the subject. Amartya Sen introduces the capability framework in the first paper, distinguishing capabilities as a normative focus from the traditional emphasis on well-being. In a second paper, Sen reviews the current state of thinking about social choice in light of Arrow's impossibility theorem, argues that making interpersonal comparisons disarms the problem, emphasizes the need to integrate procedural considerations in thinking about social decisions, and comments critically on the idea that individuals invariably behave as *homo economicus*. Philippe Fontaine shifts attention to the role of sympathy in economics, but contrasts sympathy with empathy, with which it is often confused. Philippe Mongin examines utilitarianism's impartial observer theorem, notes that it lacks clarity in its existing elaboration, and then pursues its reconstruction in the social choice extended preference framework.

Part V takes up the increasingly formal character of economics since 1950, beginning with a pair of companion papers. Roy Weintraub first argues that the history of mathematics is not well understood by economists, so that economics is consequently beset by continuing confusions about the interconnections between rigor, axiomatics, formalism and mathematics – as well as controversy over what constitutes scientific knowledge. Backhouse agrees that axiomatization, mathematization and methodological formalism should not be confused, but argues that formalism, properly understood, is essential to progress in economics. The key, he believes, is to keep economic theory close to its empirical roots. Turning to the origins of formalism in economics, Hands examines and assesses competing views by methodologists regarding whether Milton Friedman's instrumentalist views about economic methodology planted the seeds for the rise of formalism.

The two papers on William Stanley Jevons that make up Part VI are meant to highlight how important methodological issues can emerge as a result of sometimes unexpected theoretical concerns. Harro Maas investigates how Jevons' preoccupation with concrete scientific practice, rather than with debates about philosophy of science, led him to place an especially high value on the role of measurement in the process of scientific discovery. Julian Reiss then looks at the distinction drawn by Jevons between natural and fictitious quantities, and examines how Jevons represented economics as aiming at the former in an effort to provide adequate and exact descriptions of economic phenomena.

Volume III closes with Part VII's comments on the current state of economic methodology. Weintraub takes an especially skeptical view of the prescriptive ambitions of economic methodology, and calls for more descriptive historical work to take its place. Mäki then responds directly to Weintraub, and argues that genuine methodological issues nonetheless endure. Finally, Hands evaluates the development of thinking about economic methodology since the time of the Caldwell Elgar volumes, and sets forth thirteen theses on how economic methodology has changed. His paper offers a fitting concluding chapter for these current three volumes.

References

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