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Introduction to *The Elgar Companion to Economics and Philosophy*

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Introduction

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The closing decades of the twentieth century saw a dramatic increase in interest in the role of philosophical ideas in economics. The period also saw a significant expansion in scholarly investigation into the different connections between economics and philosophy, as seen in the emergence of new journals, professional associations, conferences, seminar series, websites, research networks, teaching methods, and interdisciplinary collaboration. One of the results of this set of developments has been a remarkable distillation in thinking about philosophy and economics around a number of key subjects and themes. The goal of this *Companion to Economics and Philosophy* is to exhibit and explore a number of these areas of convergence. The volume is accordingly divided into three parts, each of which highlights a leading area of scholarly concern. They are: political economy conceived as political philosophy, the methodology and epistemology of economics, and social ontology and the ontology of economics. The authors of the chapters in the volume were chosen on the basis of their having made distinctive and innovative contributions to their respective areas of expertise. In addition, authors were asked to not only survey the state of the field as they saw it, but also provide statements of their own positions and their perspectives on the field in question and its possible direction of development in the future. We thus hope this volume will serve not only as an introduction to the field, but also stimulate further work and thinking concerning the questions it investigates.

Political economy conceived as political philosophy

The essays in the first part of this *Companion* investigate the idea of economics or political economy as political philosophy. This last term should not to be understood in the pejoratively restrictive sense of Rosenberg's (1992) definition of economics as mathematical political science. Rather, it should be taken to refer to the use of specific (namely economic) tools to understand the conditions of social order. This perspective harks back to the founders of economics and their conception of the discipline. Of course some would argue that more than two hundred years of scientific research have carried the discipline away from this conception. In fact, however, and as the issues discussed in the chapters in this section show, the distance that separates political economy in its recent developments from its origins is not that large.

Regarding political economy as a form of political philosophy is not to deny its existence as a self-standing scientific discipline. Political economy is indeed a separate science in its own right and, in the opening chapter on 'Natural Law, Natural History and the Foundations of Political Economy', José Luìs Cardoso shows how it came to be so. Cardoso's argument proceeds in two stages that correspond to two distinct but complementary developments in the eighteenth century. The first of these was the identification of an object interesting and important enough to require analysis over and above that already provided within the framework of the philosophy of natural law. Social and economic organisation thus came to be viewed as parts of the natural order. The second development was a recognition of the need for some form of scientific method in terms of which the analysis would be conducted. Here, according to Cardoso, political economy was deeply influenced by the growing stature of sciences that aimed to uncover the laws that governed the functioning of the natural world. Natural history, the most authoritative field of knowledge in the eighteenth century, along with the conceptual constructions of the natural sciences, accordingly came to provide the tools with which political economy was able to establish itself as a science.

The three chapters that follow, by Alain Marciano, Shaun Hargreaves Heap and Bruno Frey and Mathias Benz respectively, discuss the virtues and limitations of the mainstream (neoclassical) economic model of the human agent, and the potential fruitfulness of a more refined representation. The objective is not, as Hargeaves Heap makes clear, to suggest that people never act in accordance with the assumptions of mainstream rational choice theory. Rather, it is to show that the highly stripped down psychology of the standard model of the economic agent is too thin to give an adequate account of people's actions in all possible walks of life. As Frey and Benz explain, this model is a relatively recent consequence of economists' efforts to rid the discipline of all traces of psychology, a contention well supported by Marciano's demonstration that the conception of economic man adopted by the founding fathers of political economy was indeed considerably richer than it is now. As Marciano describes it, the rejection of Cartesian rationalism in favour of empiricism by Scottish Enlightenment authors such as Hume and Smith, led naturally to a theory of man limited in his cognitive abilities, whose knowledge would always be highly subjective and situation-dependent.

The central message in Hargreaves Heap's chapter on 'Economic rationality' is the need to pay attention to intersubjectively shared beliefs, particularly when attempting to understand behaviour that seems resistant to the standard model of economic agency. In many situations, according to Hargreaves Heap, individual agents are not driven solely by instrumental reason and the direct satisfaction they might derive from the outcome of any action, but also by the sense of self-respect they achieve from knowing that their actions reflect well upon them. The difficulty this raises is that even if the desire for self-respect is regarded as a kind of preference, self-respect does not fit into the analytical framework of the standard rational choice model. This is because people's judgements regarding what actions reflect well on them cannot be decided in isolation, namely without reference to the beliefs and values of other members of the community. And if so, it then it becomes necessary to analyse how individuals acquire and share beliefs about what is worthy. Obviously, these questions go beyond the boundaries of the rational choice model, and require input from other disciplines. Hargreaves Heap points out that psychology offers some relevant insights here, especially about cognitive dissonance and intrinsic/extrinsic motivation.

Frey and Benz, in their essay 'From Imperialism to Inspiration: A Survey of Economics and Psychology', also argue that economists can no longer rely only on an approach to human behaviour based on the model of the 'homunculus economicus'. They too observe that there are many forms of human behaviour that are in conflict with the assumptions of, and therefore incomprehensible within, the framework of the standard model. In particular, Frey and Benz point out that, in contrast to the standard model, people face cognitive limits and are emotionally constrained, are not systematically egoistic in their behaviour, and are not committed to acting under the constraints of the material elements of their material utility function. The suggested remedy is that economists might draw on psychology to 'inspire' them out of the current impasse. But again, Frey and Benz are not proposing that economics be replaced by psychology. They continue to regard the standard model of the rational economic agent as a consistent general framework against which the insights of psychology, which 'consists of a large number of partial theories and special effects, which are more or less isolated from each other', may be thrown into sharper relief.

A more refined, 'inspired' conception of economic man necessarily leads to normative implications in relation to the nature, the scope and the role of institutions. For example, in his essay entitled 'The historical and philosophical foundations of *new* political economy', Marciano shows that sympathy is a necessary condition for successful co-ordination, although not sufficient to order large and open societies. Therefore, even if spontaneously emerging conventions play an important role in allowing successful coordination, there is also a place for consciously designed institutions in overcoming the natural limits of sympathy. Hargreaves Heap, for his part, stresses the necessity of deriving prescriptive consequences from the expressive conception of rationality he proposes. In particular, from his perspective, it is important to take seriously the role institutions play in shaping, and contributing to the sharing of beliefs. Societies need institutions that allow people to participate in the discussion of shared beliefs, and which give them scope to express those beliefs in action, in Hargreaves Heap's view, much in the way suggested by Habermas.

Geoffrey Hodgson's chapter, 'Institutional Economics: From Menger and Veblen to Coase and North', surveys the commonalities and differences between the 'old' and the 'new' institutionalist schools, as well as some differences between individual members of each camp. Like many of his co-contributors, Hodgson is interested in competing theoretical conceptions of the economic actor. On this front, in his view, the new institutionalism represents a step backwards in that its commitment to the standard model of rational agency has obscured various key insights of the older institutionalists. But Hodgson's main concern is with the related idea that individual action and institutions bear on each other in a reciprocal way, i.e., that while individual action presupposes institutions (or rules), institutions are at the same time affected, indeed reproduced, by the total of individual action. Hodgson argues that this mutual dependence is recognised in the writings of the old institutionalist school, which is therefore not restricted to the doctrine that all human behaviour is socially or institutionally determined. For example, he demonstrates that both Veblen and Commons see the interactions between individuals and institutions as a top-down and a bottom-up process of reciprocal influences. But Hodgson recognises that the different ways in which institutions affect peoples' behaviour remain underdeveloped in the old institutional economics, and suggests that this issue therefore provides fertile ground for further work.

As Hodgson notes, one way to proceed here is to adopt an evolutionary approach to the study of institutions. Veblen's attempt to harness some of Darwin's ideas as a basis for an evolutionary economic science provides an early example here, and there is of course something of a tradition in economics of authors advocating evolutionary approaches of various kinds. Jack Vromen's chapter, 'Taking evolution seriously: what difference does it make for economics?' is essentially a survey of this tradition, and provides the valuable service of providing a coherent overview of what is by any measure a pretty disparate literature. Vromen's organising principle is the extent to which the introduction of evolutionary thinking is seen to affect standard methods, and he provides a revealing grouping of various commentators under the following three headings: the 'revolutionaries', like Veblen, who believe that taking evolution seriously requires profound changes to standard economic theory; the 'conservatives', like Alchian, Friedman and Becker, who believe it possible to accommodate evolutionary economic processes within standard economic theory; and 'revisionists' like Robert Frank, who claim that evolutionary themes can be accommodated by revising or amending parts of standard economic theory while leaving its essential elements unchanged.

We have noted Hargreaves Heap's emphasis on specifically rational, private deliberation in the process of individual preference formation, but other writers have focused instead on public deliberation. Indeed economists, political scientists, and political philosophers, who have devoted their attention to the role that deliberation could or should play in our societies, have in some instances even gone so far as to propose public deliberation as a means of producing a definition of social justice. However, while it may be convenient to allow normative economics and political philosophy to be guided by the standards of public deliberation, this falls well short of what is required for a serious investigation of the foundations of ethical principles. Indeed, as Marc Fleurbaey notes in his essay ‘Normative economics and theories of distributive justice’, too often ordinary thinking about moral principles is guided by pragmatic considerations and unexamined moral intuitions, when what is needed is that precise criteria be developed and analysed to produce theories that are complex enough to address the normative problems society encounters. As a step towards this end, Fleurbaey provides a careful survey of the various approaches to the problem of defining social justice that have been developed by economic theorists and philosophers over the last fifty years. From the Pareto criterion and its limits to the theories of fairness and equality of resources, and including discussion of libertarian views and social contract theories, Fleurbaey provides a detailed and comprehensive analysis of the normative economics literature that has assumed increasing importance in economic analysis.

The final chapter in this part of the Companion, Alain Leroux’s ‘Ideology: an economic point of view’, returns to the themes explored in Cardoso’s opening essay regarding the possibility of separating science from ideology. Leroux begins with the standard interpretation of ideology offered by Karl Marx. According to Marx, ideology is an inferior form of discourse that offers a distorted and coerced representation of the social order – as distinct from science, the domain of an objective, non-distorted and unconstrained knowledge. Leroux explains how Marx’s approach leads to a vicious circle, namely that it is impossible to maintain that any discourse is not spoiled by ideological bias while at the same time maintaining the possibility of developing an alternative discourse free from any ideology. This logical trap is known as the Mannheim Paradox and Joseph A. Schumpeter is one of its most famous victims. In the face of the impossibility of eliminating ideology from economic discourse, Leroux proposes instead to put ideology, science, and even philosophy on the same footing. He does so by presenting them as *cognitive strategies* or *pure forms of thought* that are interdependent and simultaneously active. From this perspective, science, philosophy and ideology allow us to identify the major form of thought that characterises a discourse, rather than the objective quality of the knowledge that is produced.

The methodology and epistemology of economics

The chapters in the second section of this *Companion* tackle various issues that have been extensively discussed by methodologists and philosophers of economics since Thomas Kuhn’s *The Structure of Scientific Revolutions* (1962).

Indeed the field of economic methodology as a separate field basically dates from this period, since practising economists addressed philosophical and methodological issues in economics prior to Kuhn's book but mostly left the field to specialists thereafter. One consequence of this development was an increasingly sharp division between economists and methodologists regarding epistemological matters in economics. While economists remained attached to traditional logical positivist methods and the empirical verification of theories, economic methodologists almost universally rejected them. At the same time, by the 1980s there were a number of quite different, competing approaches pursued by economic methodologists. For a brief time, Karl Popper and Imre Lakatos's views held centre stage, but since then economic methodology has developed multiple currents. The chapters in Part II are accordingly meant to introduce some of the ideas and themes that have preoccupied economic methodologists in recent decades.

The first chapter addresses Lakatos' methodology of scientific research programmes (MSRP), which in important respects was a development and reformulation of Popper's thinking, and was the last approach enjoying a degree of consensus among methodologists. Roger Backhouse charts the rise and fall of the MSRP, explaining its appeal and subsequent doubts. The reason for the latter was less second thoughts regarding the fruitfulness of the MSRP approach and more a growing interest in a whole variety of new ways of looking at methodological questions in economics: rhetoric and discourse analysis, sociology of scientific knowledge, the re-discovery of J.S. Mill, etc. In effect, methodological thinking was becoming increasingly sophisticated, and this introduced new subtleties into debate among methodologists. The MSRP, which offered a broad, comprehensive view of the growth and development of research programmes began to be perceived as 'thin', because it ignored many issues that had previously been perceived as peripheral. Backhouse's own discussion reflects this, as he goes beyond the question that long preoccupied methodologists in connection with the MSRP – whether it offered an adequate account of how economists adopted and abandoned research programmes – to examine Lakatos's own history before his arrival in Britain, and how this contributed to the development of his thinking.

Backhouse's discussion leads naturally to the second chapter in Part II, Wade Hands' 'Constructivism: the social construction of scientific knowledge', on the sociology of scientific knowledge (SSK). Whereas the type of question methodologists and philosophers had once asked concerned the nature of scientific knowledge, social constructivists rather asked how scientists came to hold their theories and beliefs. That is, SSK investigated the determination of scientists' beliefs. This focus led to many new ideas (for example, pragmatism, hermeneutics, postmodernism, and feminism) that significantly expanded the scope of economic methodology substantially beyond its original confines. It also raised difficult philosophical issues, such as what was meant by saying a theory was true when social factors could be shown to have led to its adoption. Hands surveys the debates within SSK, and then looks at their application to, first, economic methodology and, second, the history of economic thought. The former involves a reflexive exercise in which methodologists ask how their own beliefs are determined. The latter concerns how economists' beliefs are determined. Here we ask need to ask ourselves about social factors that influence the adoption of beliefs by economists.

One such factor, until recently much under-appreciated, is gender. Historically economists have generally ignored gender in their explanations of markets and individual decision-making. How, then, might economics be different were this particular factor given attention? Drucilla Barker's chapter in this section, 'From feminist empiricism to feminist poststructuralism: philosophical questions in feminist economics', surveys the evolution in thinking on the part of feminist philosophers, methodologists, and economists since the 1980s, in the process distinguishing feminist empiricism, feminist standpoint theory, feminist poststructuralism, and feminist postmodernism. She explains how this development has raised fundamental epistemological and other philosophical issues, and how these issues have generated debates over objectivity of science, the tension between facts and values, and the relation between science and advocacy. Barker emphasises a key perspective on this discussion in her emphasis on epistemological communities, the feminist one in particular. Feminist economics is a relatively late arrival in professional economics, and this had led its proponents to work more closely together to ensure its progress, reinforcing its character as a community. Like Hands in his treatment of SSK, then, Barker also makes economic methodology reflexive: or something that applies to those who develop it as well as to practising economists.

Rob Garnett provides the next contribution to this general discussion in his 'Rhetoric and postmodernism in economics'. Another of the important pathways away from methodologists' early Popper–Lakatos focus concerns the role of discourse, language, and rhetoric in economic explanation and argument. Deirdre McCloskey's work originated much of this literature, and she made a case for rhetoric as the method of economics by directly contesting traditional economic methodology – logical positivism, behaviourism, operationalism, and the hypothetico-deductive model of explanation – as all part of a modernist intellectual culture. In contrast, a postmodernist economic methodology rejects foundationalist epistemologies and the search for Truth with a capital-T. Like SSK and feminist economic methodology, postmodernism examines how scientific communities operate. One significant theme that arises in this regard is the extent of pluralism in economics. McCloskey thus not only rejects modernist economic methodology, but also illiberal and authoritarian practices on the part of economists who foster it. Economics and economic methodology, in her view, ought rather to be modelled on the idea of an open conversation that is inclusive rather than exclusive in nature.

The remaining chapters in Part II address particular problems and issues in economic methodology that cut across the recent development of the field. Jointly they provide a sample of the diversity in themes that have come to reflect the rapid expansion of methodological thinking in the last two decades. They also point us towards the first and third parts of this *Companion*, since they have also been of interest to philosophers of economics investigating political economy as political philosophy and the ontology of economics.

Marcel Boumans, in 'Models in economics', addresses the practice of economics in the development of modelling. Traditionally the poles of economic practice have been thought of as theory and empirical analysis. But economists generally reason in terms of models, which lie intermediate between theory and empirical analysis. What does economic methodology then have to tell us about models in economics? Because models simplify what they represent they are necessarily unrealistic. This has led some philosophers of science to argue that models are not representations of the world, but rather instruments of investigation used to interact with the world (Morgan and Morrison 1999). To bring out these issues, Boumans traces the evolution in methodological thinking about models and modelling from arguments developed in physics to the early thinking about the nature of macro-econometric models on the part of Jan Tinbergen for the League of Nations. This history is then linked to current debates in philosophy of science and a discussion of model-building practices in economics. A surprising result is the variety of different types of elements that go into models. Models emerge out of a process analogous to baking: separate ingredients are blended and ultimately combined into the final product.

A related topic is the role and nature of mathematics in economics. Peter Kesting and Arnis Vilks examine this in their chapter 'Formalism'. One obstacle to understanding formalism in economics is the many ways in which the term is used. Kesting and Vilks consequently begin by explaining formalism broadly as any approach to theorising that aims at making explicit the logical structure of a theory, and then distinguish formal systems from set-theoretic formalism. One of the remarkable developments in economics in the last half century is general acceptance of set-theoretic formalism. While it is true that most of present-day mathematics is derived from set theory, this does not imply that this is the only or even necessarily the best basis for connecting formal models and reality. The set-theoretic approach owes much of its influence to Bourbaki-influenced Gerard Debreu's axiomatic account *Theory of Value* (1959). But as many commentators have noted, the rigor of formal models often comes with a relatively loose interpretation of those same models. Kesting and Vilks pursue this tension through the recent history of development of formal models in economics, noting how parables, tacit knowledge, and 'as if' assumptions play a role in the justification of accepted formalist strategies.

The final chapter in this section, Harold Kincaid's 'Methodological individualism and economics', turns us to a perennial issue in the methodology of economics: the extent to which explanations can and ought to be cast in terms of the behavior of individuals. For some, economics is identified with individualism. But close examination of the underlying claims making such explanations raise a number of difficult philosophical issues. One of the most challenging concerns the requirements for reducing statements about social phenomena to statements about individuals. In the philosophy of science reductionist arguments have been examined in connection with the question of whether all science is ultimately physics. Another fundamental issue involves what constitutes the 'best' explanation in science or in economics. These more philosophical questions return us to economic methodology's epistemological concerns, but no less important are the ontological ones the topic of individualism raises. When we privilege individualist explanations in economics, do we believe that only individuals exist? That society itself does not exist? Kincaid argues that many of these questions cannot be solved in an a priori manner apart from attention to concrete empirical inquiry. But few economists, he notes, are prepared to accept this conclusion.

Social ontology and the ontology of economics

The chapters in the third and final part of this C*ompanion* concentrate on questions of ontology, that is, questions regarding existence or being and, in particular, the nature and structure of the socio-economic realm.[1] Some of the authors represented here analyse particular aspects of the social world in a direct fashion, addressing things such as the relationship between agency and structure, the nature of probability, and the nature of money. Others take a more indirect route, starting off with particular theories or modelling tools adopted by economists, and then asking what these theories or tools presuppose about the nature and structure of the social world that they are applied to.

The first three chapters are contributions to critical realism, an important stream in the literature on ontological issues in economics that has been developing over the last fifteen years or so (see Fleetwood 1999, Lawson 1997, 2003). One of the hallmarks of critical realism is a view of the social world as structured and open,[2] and the broad strategy employed in much of this literature is to use this view of the world as a benchmark against which to assess the extent to which different methods are likely to bear fruit in social research. This strategy is both described and put to work in the first chapter in Part III, Tony Lawson's 'philosophical underlabouring'. Following Locke, Lawson argues that the appropriate role of the philosopher of science is not to do science or even to attempt to provide general methodological rules for scientists to follow, but rather to engage in what he calls 'ground clearing' or removing the 'rubbish that lies in the way to knowledge' in any particular discipline. Lawson identifies three broad ways in which philosophical ground clearing might be useful, in what he calls its demystifying, informing and method-facilitating functions.

In Lawson's view, academic economics is currently in particularly urgent need of ground clearing, and that the rubbish to be removed is the dogma that the only legitimate mode of economics analysis is mathematical and/or statistical modelling. The starting point of his argument is the observation that any specific set of research practices and procedures presuppose particular (usually implicit) conceptions of the nature and structure of reality. This is where ontology comes in, according to Lawson, and why it is so important. He then goes on to argue that the mathematical and statistical tools of mainstream economics presuppose a world that 'everywhere comprises (closed) systems of isolated atoms', in sharp contrast to the image of the structured and open social world associated with critical realism (and which he subsequently goes on to outline). The implication is that, if the social world is indeed as described in critical realism, then there is a fundamental mismatch between the tools of mainstream economics and the social material that those tools are applied to. But Lawson's arguments here are not only destructive in intent. He also demonstrates different ways in which his preferred social ontology may aid social research, by way of providing a categorical grammar that may help to sharpen substantive social theoretical conceptions and distinctions, by suggesting a distinctive theory of rationality that is rather different from the model standardly employed in economics, as well as by providing directionality to research in various ways.

The two chapters that follow, by Steve Pratten and Paul Lewis respectively, provide good illustrations of different ways in which some of the lessons of critical realism may be put to work. Pratten's chapter is devoted to the New Institutional Economics, focusing particularly on the transactions costs approach associated with the work of Oliver Williamson (1985, 1989, 1991). Pratten's point of departure is the often-noted 'gap' between modern economic theory and the socio-economic reality that it purports to be about. Like Lawson, Pratten attributes this gap to the profession's a priori commitment to mathematical modelling and the preoccupation with the analysis of fictitious model 'worlds' that this commitment seems invariably to entail. Indeed, as Pratten sees it, the need that many economists feel to conduct research that bears the mathematical imprimatur of 'serious' economic analysis is fundamentally at odds with moving toward a more realistic and relevant economics. The thing that particularly interests Pratten about the New Institutional Economics is that this is an area in which he sees this tension as being especially apparent. For despite criticising mainstream economics for being unrealistic and promoting their project as one aimed at greater realisticness and relevance, proponents of the New Institutional Economics tend ultimately to retain a strong commitment to formalism. Of course it is possible to maintain that this tension is an illusion on the grounds that that the particular formalisms employed so far simply haven't been the right ones. However, and drawing on the ontological insights of critical realism, Pratten argues that so long as the assumptions underpinning mathematical methods conflict with the constitution of social reality, the mismatch between method and material will persist and the various resulting tensions and compromises that he identifies will remain.

Paul Lewis tackles the relationship between human agency and social structure, a perennial theme in social theory, by way of comparing how this relationship is dealt with in contemporary Austrian economics on the one hand and in critical realism on the other. In recent years, members of the radical subjectivist wing of the Austrian school rejected the atomistic conception of the economic actor and have emphasised instead the virtues of portraying people as social beings embedded within networks of shared meanings and interpretive traditions (e.g. Boettke 1990, 1998; Boettke and Storr 2002; Prychitko 1994a; Vaughn, 1994). On this view, as Lewis puts it, traditions and people are mutually constitutive, 'with the former being both an ever-present condition for the possibility of socio-economic activity and also a continually reproduced outcome of the latter' and that the social sciences deal 'with a pre-interpreted world, where the creation and reproduction of meaning-frames is an (ontological) condition of that which it seeks to analyse, namely human conduct'. These phrases are reminiscent of the so-called transformational model of social activity associated with critical realism, according to which agency and structure presuppose each other, and the hermeneutic moment. Lewis points out various points of overlap with the Austrian position. But there remain significant differences between the two, and Lewis emphasises in particular that the Austrian view of the 'socio-economic world as an intersubjective fabric spun from shared meanings that persist or change as people negotiate interpretations of events and states of affairs, the radical subjectivists run the risk of failing to do justice to the importance of the non-discursive (material) aspects of social structure – vested interested and power distributions'.

The subject of intersubjectivism leads on neatly to the next two chapters by John Davis and Edward Fullbrook who tackle the theme of collective or shared intentionality. Davis proposes 'collective intentionality analysis' as a prospective theoretical framework suited to addressing what he calls 'complex' economic behaviour. By complex behaviour Davis means behaviour that is not amenable to a single explanatory framework such as the mainstream model of instrumental economic rationality. Collective intentionality analysis involves a distinct approach to rationality in the form of a deontological or principle-based type rationality that is appropriate to explaining individual interaction in social groups. If we suppose individuals are both members of social groups and also have occasion to act in relative isolation, then their behaviour needs to be explained in terms of both sorts of rationality principles, giving rise to its characterisation as complex.

The rationale for employing collective intentionality analysis as an additional account of economic behaviour is that economic agents appear to behave differently in organisational, group, and institutional contexts. For example, it is often noted that trust relationships based on shared intentions emerge in markets characterised by repeated exchange, whereas spot markets with little repeated contact tend to be characterised by instrumentally rational behaviour. Here, the relevant model involves instrumental and collective rationality operating 'side-by-side' in proportion to the extent that individuals act socially or in a more autonomous manner. Further, social groups and organisations differ according to how they delegate independent action to individuals. When individuals have considerable autonomy and discretion, this may be due to shared intentions having created a platform for a circumscribed instrumentally rational behaviour. That is, instrumentally rational behaviour is embedded in collectively intentional behaviour. An opposite sort of case involves deceit, deception, and fraud. Individuals may claim to share intentions while yet acting in a self-serving manner. Davis points, then, that the possibility that economic behaviour may be complex implies that the policy value space may itself be complex. Moving from an exclusive reliance on the instrumental model of economic rationality also entails moving from an exclusive reliance on efficiency criteria in normative economics towards complex accounts of valuation and recommendation which combine efficiency as a value with such values as justice and fairness.

The theme of collective intentionality is continued in the chapter by Edward Fullbrook, a prominent proponent of intersubjectivism in economic analysis (Fullbrook 1996, 1997). The guiding idea on the intersubjectivist approach is that human consciousnesses are constitutionally interdependent, that human subjects form and reform themselves, not in isolation, but rather in relation to and under the influence of other human subjects and institutions. As Fullbrook points out, given how commonsensical this idea is, it is an interesting question why it had so little impact on modern philosophy until the last century, and, until recently, in mediating in social theory between holistic and radically individualistic explanations. Even more significantly, from the viewpoint of this collection, it is an interesting question why intersubjectivism continues to remain banished from mainstream economics. Fullbrook attempts to answer these questions by drawing on the histories of modern philosophy and social theory and their relations to economics. The first two-thirds of his chapter explore the Cartesian philosophy from which the atomistic conception of the standard model of the economic actor derives, and the development of intersubjective philosophy and social theory over the last century. The final section considers the case of economics. Here Fullbrook argues that, in turning its back on all economic phenomena that do not conform to its Cartesian metaphysic, economics not only neglected awkward but central empirical realities but also became wedded to a spurious naturalism and the unarticulated but culturally powerful line of racism and sexism that this entails.

Philip Faulkner and Jochen Runde devote their chapter to how the standard model of the economic actor employed in mainstream microeconomics has limited the way in which it approaches information, knowledge and the related issues of ignorance and uncertainty. The first half of the chapter is devoted to an overview of kind of assumptions typically made in respect of economic actors' knowledge in mainstream economic models. This is achieved by way of a detailed exposition of a representative mainstream model, in this case a simple one-shot Cournot duopoly game under conditions of both complete and incomplete information. It is shown that even where the model is extended to the case of incomplete information, a move intended explicitly to highlight the effects of imperfections and asymmetries in actors' knowledge, the degree to which the complexities of human knowledge are reflected remains severely limited.

The second half of the chapter is devoted to three aspects of human agency that are neglected by the mainstream approach: non-probabilistic forms of uncertainty and ignorance, the subjectivity of knowledge, and tacit knowledge. Faulkner and Runde conclude that the much vaunted information theoretic revolution in economics (Stiglitz 2000) represents only a first step towards incorporating the effects of factors such as uncertainty, ignorance and subjectivity into economics. For instance, by virtue of the commitment to expected utility models of decision-making, the actors within mainstream microeconomic models inevitably suffer only certain forms of uncertainty. There is no scope in these models for actors to be affected by ignorance of the full set of possible eventualities that might result from their actions (or indeed the options open to them), or to alter their behaviour as a result of being unable to state precise probabilities. Categories such as surprise and novelty, which are closely associated with uncertainty and ignorance, consequently remain outside the scope of mainstream economics.

The theme of uncertainty and ignorance is also taken up in the chapter by Chuck McCann, who surveys the major competing interpretations of probability and how these have emerged in and coloured different parts of economic theory (note that McCann's focus is on knowledge and belief, and the way in which probability theorists have attempted to model them, rather than on probability as it is employed in statistics and econometrics). After two brief preliminary sections on knowledge and belief and the axiomatic structure of probability, McCann introduces the key ontological distinction on which his presentation turns, between aleatory conceptions of probability on the one hand and epistemic conceptions on the other. On the aleatory conception, probability is taken to be a property or feature of the external world (e.g. the frequency of a particular kind of realisation within a class of otherwise similar realisations). On the epistemic conception, in contrast, probability is taken to be a feature of how we think about the world (e.g. your subjective degree of belief in there being rain tomorrow). This distinction is then deployed as organising principle in McCann's review of the major interpretations of probability – classical, frequentist, logical and personalist – as well as forming the basis for his subsequent elucidation of the distinction between risk and uncertainty. McCann closes by touching briefly on some areas in economics in which probability and uncertainty have come to the fore: (post)Keynesianism, Rational Expectations and Austrianism.

The final chapter in this collection is Geoff Ingham's wide-ranging study of various views on the nature of money that have been propounded in different parts of the discipline. The first part of the chapter deals with the commodity-exchange theory that has come to dominate mainstream economic theory, and the associated conception of money as a neutral veil over what is fundamentally a barter economy. Ingham raises various criticisms of this account, chief of which is that its emphasis on money as a device to overcome the problem of a double coincidence of wants in a pure barter economy, has led to a misunderstanding and neglect of *money of account*. This then leads to a long section on heterodox conceptions of money that theorise money as abstract value and token credit. The central idea here is that money is constituted, not simply by some commodity that becomes accepted as a medium of exchange, but by social relations. Among the figures considered are Knapp, Simmel, Keynes and Weber, and Ingham shows how the kinds of ideas expressed by these authors emerge in recent debates on endogenous money, the theory of the 'money circuit' and modern neochartelism.

Ingham outlines his own position in a closing section on 'the fundamentals of a theory of money', focusing on three questions: what is money?; how is it produced?; and how does it obtain, retain or lose its value? Here Ingham sides with the heterodox tradition and its emphasis on money being constituted by social relations. Some of the key ontological themes developed here are that money is uniquely specified as a measure of abstract value and a means of transporting this abstract value, that money cannot be created without simultaneous creation of debt, indeed that 'vast dense networks of overlapping and interconnected bilateral credit–debt relations constitute money', and that the abstract idea of money is a prerequisite for the things that represent money (cash, cheques, credit cards, magnetic traces on a computer disk, and so on) to work as money. In an unusual and refreshing touch, Ingham makes various telling points about how these seemingly abstruse and often-dismissed considerations can illuminate various recent events on monetary history.

Economics and philosophy

What does the future hold for economics and philosophy? On the one hand, as readers will see from the chapters included in this volume, philosophical questions have a surprisingly natural place in economics, since so many issues fundamental to the latter find clear and immediate expression when re-presented in philosophical terms. No doubt many find this an unexpected development, since for many years economics was widely thought to be a relatively separate science (Hausman 1992). This view, however, has come into question in light of the influence that formal mathematical methods have had on economics over the last half century, and so it is not unreasonable to suppose that economics will be further changed in the future by growing awareness of and sensitivity to its philosophical dimensions. On the other hand, the way forward for economics and philosophy is difficult to predict. Whereas the application of mathematics to economics generally presupposes a pre-existing set of problems in economics which it is typically hoped may be illuminated by mathematics, combining philosophy and economics often involves re-considering one's very starting points. Thus not only is there always the potential for fundamental redirection of economics in light of new philosophical entry points, but it is not easy to predict what sources of philosophical inspiration might be important to economists in the future.

However, one possible guide to the future role of philosophy in economics might be found in the broad philosophical issues afoot in society today regarding such fundamental issues as the relation between society and nature, the effects of technological change, the place of moral values in the world, the future of humanity, and so on. For many years, academic economics has held little interest for most people. But the now wider place of economics in higher level education and the greater influence economics seems to have today on people's everyday lives appears to have changed this, such that it is no longer unusual for people from across society to have both some understanding of economics and opinions about it. Then, on the assumption that peoples' different views of the world and the society they live in depends upon their various philosophical presuppositions, however well articulated or ill-formed these may be, it might well be the case that these deep-seated views will re-emerge as issues discussed in the domain of economics and philosophy. But whatever their origin, philosophical concerns now appear to be well-embedded in economics, and not likely to drift off into the background again where they once resided.

Notes

1. Recent years have seen a growing interest in ontological issues in economics (see for example Mäki 1998, 2000, 2001; Lawson 1997, 2003).
2. By the world being structured we mean that it comprises not only events and states of affairs (the actual) and our experiences of them, but also of an 'underlying' and often unobservable reality of capacities, powers, structures and mechanisms that, once triggered or being otherwise in play, give rise to and govern those events and states of affairs. By the world being open we mean that the actual could always have been other than it was.

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