

with both minimalists and contextualists. With contextualists such as Recanati and Relevance Theorists, they hold that there is a clear dividing line between the explicit content of an utterance (i.e. ‘enriched what is said’ or ‘explicature’) and its implicatures, even if pragmatic reasoning is involved in the derivation of both. However, K&P also hold that the various minimal propositions expressed by an utterance (viz. various utterance-bound propositions) may have a role to play in its interpretation, a position which K&P see as aligning them with authors such as Cappelen and Lepore (*Insensitive semantics: A defense of semantic minimalism and speech act pluralism*. Oxford: Blackwell, 2005) and Borg (*Minimal Semantics*. Oxford: OUP, 2004). K&P differ from the semantic minimalists, however, in that they seek to examine how these minimal propositions are employed by speakers and hearers in the communication of utterance content. The book ends with an interesting chapter that seeks to tie together the authors’ views on content with their view of utterance interpretation.

Written in a jaunty and engaging style, this book is well suited to those who want a relatively straightforward introduction to ideas developed in Perry’s *Reference and Reflexivity* (2001), and K&P’s “Three demonstrations and a funeral” (2006). However, the book is much more than an introductory text. It is also an argument for a shift in the theoretical perspective. Despite the influence of Austin and Grice, the figures of Russell and Frege loom large in contemporary theorising about language. As K&P note (p. 162), these authors were largely concerned with removing ambiguity and nuance from natural language, so that the pursuit of knowledge could be facilitated by the ability to make precise, transparent statements. Although not working towards the same end, much modern pragmatic theorising nevertheless mirrors this project in that it sees the process of utterance interpretation as being, in no small part, geared towards specifying the precise content of the explicit component of the speaker’s meaning, which then serves as the basis for the calculation of implicatures (or for the rational reconstruction of that process). K&P, by contrast, see the identification, by the hearer, of the speaker’s intentions as being possible without identifying the explicit content of her utterance. This is a very welcome move, as it encourages us to think about linguistic encoding in different terms: not as a way of directing the hearer to the speaker’s explicit content, but as a means of directing him towards the implicatures she intends to communicate, so that he might thereby grasp the intended significance of her utterance.

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DOI: 10.1387/theoria.11404

IAN JARVIE & JESÚS ZAMORA-BONILLA, eds. 2011. *The SAGE Handbook of the Philosophy of Social Sciences*. London: SAGE Publications.

For the *SAGE Handbook of the Philosophy of Social Sciences*, editors Ian Jarvie and Jesús Zamora-Bonilla assembled 39 contributions from some of the leading scholars of the field. A remarkable number of contributions are from practicing scientists. This is tes-

tament to a commitment to keeping philosophy of science close to practice that is also apparent in most of the individual contributions. However this doesn't mean that the Handbook restricts itself to methodological work (which is often contiguous to debates within the sciences). In fact it distinguishes itself from similar volumes, such as the 2012 *Oxford Handbook of Philosophy of Social Science* (Oxford University Press, edited by Harold Kincaid) through its emphasis on the history of social science and its philosophy on the one hand, and on the ontological commitments of the social sciences on the other.

As Jarvie points out in his introduction to the 749-page volume, the philosophy of social science is "wide-ranging, untidy, interdisciplinary and constantly being reconfigured in response to new problems thrown up by developments in the social sciences" (p.1). This can make it hard for scholars and students who are new to the field, or new to some specific area therein, to find their way in. A good handbook can greatly facilitate this: its entries will provide accessible and concise statements of the central questions that arise with regard to a particular topic, the necessary amount of historical background to make sense of a debate, and a well-organised review of the literature most relevant to the state of the art. Most of the contributions to the *SAGE Handbook of the Philosophy of Social Sciences* do a very good job at this, which should make it a great resource both for philosophers with an interest in social science, and scientists with an interest in the philosophical underpinnings of their subjects.

The *Handbook* is divided into four parts, and an introduction and an epilogue by the editors. Part 1 is focused on the history of the field, part 2 deals with social ontology, part 3 introduces the paradigms of social science, and part 4 exhibits some of the most important methodological debates in the social sciences. Part 1 contains only three articles, which, due to their narrative character, are best appreciated in their entirety. What stands out in this part is David Teira's wonderfully clear exposition of 'Continental' philosophies of science (which he provides after asserting that there is no such thing as 'Continental' philosophy). Though Teira is selective in the material covered, the entry is a helpful resource to go back to when reading some of the later articles in the volume, especially the second half of part 3, which covers a number of social science paradigms commonly classed as 'Continental'.

Two themes run through the second part of the *Handbook*, on 'Central Issues in Social Ontology'. The first is the question in how far the subject matter of the social sciences makes it distinct from the natural sciences. For instance, Frank Hindrik's entry on language critically discusses the idea that language plays a central role in the construction of the social (focusing especially on Searle), which may be seen as setting the social apart from the natural. Don Ross' entry on naturalism contains some fascinating explorations of the relation between biology and social science, examining both the biological and evolutionary roots of sociality, and the idea that the biological is pervaded with the social.

The second major theme of part 2 is methodological individualism, and the relation of 'macro' and 'micro' levels of analysis. In fact, this cluster is relevant to nearly all the entries in this part, so that a lot of common ground is covered. Nevertheless, the diversity of viewpoints the reader is thereby offered on this issue is itself fascina-

ting and informative. For instance, Ross' contribution claims that no social science presupposes individualism, while a number of other articles suggest that insofar as economics is committed to rational choice theory, it is wedded to methodological individualism. Alban Bouvier's piece on individualism and the micro-macro relation contains a number of useful conceptual clarifications that throw light on such debates.

Part 2 also contains Daniel Little's compelling and refreshingly political paper on social class and power in contemporary North America, arguing that these notions should still be very relevant to social scientific research today. Fred D'Agostino's entry on rational agency, and Fabienne Peter and Kai Spiekermann's entry on 'Rules, Norms and Commitments' are two wonderful examples of what excellent handbook articles can do: They are accessible and clear in style and in organisation, locate their topics in the historical and wider philosophical context, throw light on the terminology used in different strands of the literature, and offer a comprehensive overview of the current debate. D'Agostino's article offers a very instructive overview of debates around rational agency in general philosophy, and then discusses Weber's work, methodological individualism, and 'Homo oeconomicus'. Peter and Spiekermann discuss the questions of what rules and norms are, what motives people have to act according to them, and how they emerge (with a special focus on the last, which is a topic that has gained much recent attention).

While most articles in part 2 are square on the topic of social ontology, the placement of some in this part is more surprising: Andreas Pickel's entry on 'Systems Theory' claims that systems theory could be considered as "philosophy of (social) science, paradigm, or heuristic, on the one hand, and [...] substantive explanatory theory, on the other" (p. 240), which invites the question why this entry is not in either the part on paradigms, or the part on methodology. As Jarvie acknowledges in the introduction, causality may be seen both as an important topic in ontology, as well as one in methodology. But Daniel Steel's entry on 'Causality, Causal Models, and Social Mechanisms' leans heavily on the methodology side: it is mostly concerned with different methods and models of causal inference. Steel distinguishes between variable-, case- and mechanism-oriented research, and argues that variable- and case-based methods, which typically use linear equations and Boolean logic respectively for their causal models, have a common underlying logic. In particular, both can be represented as different parameterisations of Bayes nets. Mechanism-oriented research often proceeds by process-tracing, which, as an indirect form of causal inference, can help overcome some of the problems of variable- and case-based approaches. Steel thus expresses a distinct point of view in the literature on causal inference. Furthermore, using simple examples, he provides some of the most straight-forward introductions to the various models of causal inference he discusses, including Bayes nets, that I have seen.

Part 3 of the Handbook aims to provide 'A Philosopher's Guide to Social Science Paradigms'. I must admit that the selection of articles in this part left me unsure of what a social science paradigm is supposed to be, and the introduction provides little clarification. Peter Hedström and Petri Ylikoski depict Analytical Sociology as characterised by a shared *epistemic goal*, namely causal explanation. This is probably closest to

what most people intuitively think of as a research paradigm. But this part of the book starts with entries on rational choice theory, game theory and social choice theory, which present their subjects either as *research tools* or *theories*. Sun-Ki Chai's article on 'Theories of Culture, Cognition, and Action' looks at a number of *theories about concepts* that are relevant for the social sciences. Grouping all these entries together under the heading of 'paradigms' is somewhat confusing.

Having said that, this part of the book not only presents the most important theories/research tools/schools of thought/paradigms that were relevant to social science in the 20th century, such as structuralism, functionalism, critical theory, pragmatism and rational choice theory. It also gives equal space to relatively new developments, such as the study of social networks (Joan de Marti and Yves Zenou). Cédric Paternotte's entry on rational choice theory is an excellent introduction to the basics of mainstream decision theory, and the major criticisms that have been launched against it, both pertaining to its structure and its application in social science. It also briefly touches on some of the major recent developments. To those unfamiliar with rational choice theory, this entry makes excellent prior reading to and connects very well with many other articles in the *Handbook*, such as the entries on methodological individualism, evolutionary approaches and game theory. Giacomo Bonanno's entry on game theory is much more technical and focuses on questions of rationality rather than applications in social science. Bonanno's article also exhibits a commitment to the 'epistemic programme' in game theory, which, despite its philosophical merits, is not mainstream amongst economists. Another very helpful article in part 3 is Geoffrey Hodgson's entry on evolutionary approaches in the social sciences, which is admirably sensitive to the ambiguity of the term 'evolution', and does a great job at dispelling myths of evolutionary models importing the ideas of 'Social Darwinism' or biologism into social science.

Part 4, finally, provides a comprehensive and up-to-date picture of methodological issues in the social sciences. It starts with an article by Heather Douglas, who systematically explores where values enter social scientific research, and how, despite the value-laden and social aspects of social science, we may still be able to claim objectivity for it. From this general perspective, we zoom in to more specific aspects of social scientific methodology, which are all excellently treated, with a wealth of examples from the social sciences: theoretical models (Tarja Knuuttila and Jaakko Kuorikoski), the sources and role of evidence (Julian Reiss), laboratory experiments (Francesco Guala), the use of mathematics and statistics (Stephan Hartmann and Jan Sprenger), agent-based simulation (Till Grüne-Yanoff), and expert judgement (Maria Jiménez-Buedo and Jesús Zamora-Bonilla).

Knuuttila and Kuorikoski do a good job at providing an overview of one of the untidier debates in the philosophy of science. Philosophers have asked many different questions about models, concerning, for instance, their relation to theories, their role in scientific representation, the consequences of idealisation in models, and whether and how we can learn from models. In addition, there is a growing, more applied literature that focuses on how and for what purposes scientists use models. Knuuttila and Kuorikoski cover this diverse terrain comprehensively in a very dense discussion.

Till Grüne-Yanoff's entry on agent-based simulation and Jiménez-Buedo and Zamora-Bonilla's entry on expert judgement again show a dedication to giving space to more recent developments in the philosophy of social science. While Grüne-Yanoff discusses the novelty of agent-based simulation in social science critically, this very debate, and the attention philosophers have paid to agent-based simulation, are quite recent. Discussions of expertise have been around for a while, but till recently have been conducted in various disjoint branches of philosophy. Drawing together these strings, and presenting the study of expert judgement as the coherent, independent research project that it is now considered to be, is a special achievement of Jiménez-Buedo and Zamora-Bonilla's contribution.

Part 4 also contains entries on explanation and prediction, which are often considered the two most important goals of science. Jeroen Van Bouwel and Erik Weber's clear and well-argued article on explanation focuses on how debates in general philosophy of science may illuminate the philosophy of social science and vice-versa. After a concise presentation of the standard general theories of explanation, they use these theories to make sense of debates within the philosophy of social science: So, for instance, whether there is explanatory virtue in unification is relevant for debates about the ideal level of explanation (which relates to the debates about the macro-micro relationship in part 2). At the same time, the variety of explanations and epistemic interests that are served by these explanations in social science puts into question the extent to which the 'winner' should 'take it all' with regard to general theories of explanation. Finally, Gregor Betz's contribution on prediction is one of the most fascinating in the volume, and contains both a critical discussion of whether and why prediction should be a goal of science, and a sobering review of the longterm performance of macroeconomic forecasts of GDP and inflation. Of special interest to economic methodologists should be the observation that there are no significant differences in predictive performance between the different forecasting methods that are currently used in macroeconomic forecasting.

Altogether, the *Handbook* covers an impressively wide range of issues. The few prominent topics in the philosophy of social science that have not been given separate entries (such as feminist approaches in social science and its philosophy, or the question of whether there are laws in the social realm) can be read up on using the extensive index. While a large number of articles are excellent in terms of organisation, writing, clarity and selection of material, the high quality of the contributions in these respects does not run through the entire volume. And (especially with an eye to the next edition) it should be noted that all too often, poor copy-editing gets in the way of readability, as too many articles contain too many mistakes. Still, these deficiencies, and the problems in the organisation of the volume I mentioned above, should not distract from the *Handbook's* many virtues: its aim is ambitious, and it should serve its purpose extremely well.

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DOI: 10.1387/theoria.11406

Theoria 80 (2014): 309-318