

formal scientific expertise. Wynne's celebrated, indeed canonical, study illustrated how sheep farmers in 1986 post-Chernobyl Cumbria knew better than government scientists how to mitigate the effects of radioactive fallout on grazing sheep. Ever since then, Wynne has successfully promoted the right of the laity to disrupt the autonomy of the scientific elites so vigorously cherished by Collins and Evans.

A concluding appendix presents a larger *longue durée* perspective in which the approach advocated in the body of the book emerges as part of a mature 'third wave' of science studies. We learn that the earlier, iconoclastic second-wave approach, which advanced the sociology of knowledge, exploited technical uncertainties in science to support radical theses of evidential underdetermination. By contrast, the new successor project engages in the apparently more grown-up endeavour of working out how, in practical terms, people should actually act when faced with such uncertainties. In their fifth chapter Collins and Evans accordingly declare that they are not interested in solving the political problem of legitimacy – the problem, that is, of deciding 'who should be entitled to contribute to the fraught business of technological development'. Rather they consider the more conservative 'question of extension': how to set boundaries and limits to the contributions of non-expert expertise to decide such matters. Their conclusion is that only those who really 'know what they are talking about' should be able to contribute, but the authors are at least prepared to include bearers of both contributory and interactional expertise in the discussion.

Will historians of science be swayed? I suspect their sympathies will remain with Wynne's attempts to reconstruct how expertise is deployed in practice, no matter how unexpectedly and rebelliously inconvenient this turns out to be for the preconceptions of sociologists. In any case, historians unmoved by Collins and Evans's normative project of policing expertise should instead head for the most erudite footnote one could ever hope to read on the operation of the mythical BBC radio game 'Mornington Crescent' (p. 129). Here readers will be able to gauge for themselves whether the authors really do have a clue what they are talking about.

GRAEME J. N. GOODAY
University of Leeds

MASSIMO MAZZOTTI (ed.), **Knowledge as Social Order: Rethinking the Sociology of Barry Barnes**. Aldershot: Ashgate, 2008. Pp. xi + 184. ISBN 978-0-7546-4863-5. £50.00 (hardcover). doi:10.1017/S0007087409990197

This collection of eleven essays is to honour Barry Barnes both on his retirement from the University of Exeter and on forty years' association with the Edinburgh Science Studies Unit. The generative quality of Barnes's work is exemplified beautifully in the temporal and geographical spread of the contributors, many of whom were at some stage members of the by-now legendary Edinburgh unit; or if they were not, are first- or second-generation comrades-in-arms in the broadly conceived sociology of scientific knowledge (SSK) agenda.

Mazzotti's introductory essay offers a helpful short overview of the emergence and growth in the early 1970s of this agenda, with its novel view of knowledge in general and scientific knowledge in particular. Mazzotti describes Barnes's central role in these developments, providing a summary of the corpus of his work and pointing out the intellectual resources he drew upon – along the way providing a genealogical mapping of the field. Although Marx has his place in the account, it is disconcerting to note that none of the other influential Marxist historian-sociologists of science – one thinks of Franz Borkenau, Henryk Grossman, Boris Hessen and Edgar Zilsel – are mentioned. Following this historical opener we encounter a set of contemporary explications and elaborations, featuring David Bloor and Trevor Pinch on the meaning and role of methodological relativism (a principal tenet within SSK), and a concise exercise in scathing irony by Harry Collins. Under the cloak of a discussion of hoaxes, Collins takes on the

science wars, and the intentions and objectivity of authors, by way of imaginative historical and philosophical applications and extrapolations of – and variations on – Barnes's continuously evolving work.

Although the volume is not formally divided into sections, the next three essays, by Steven Shapin, Karin Knorr-Cetina and Donald MacKenzie, form a fairly coherent cluster. Shapin, who has been working in recent years on the changing character of academic and industrial science in the USA since the 1970s, contributes a deeply absorbing study of the prehistory of these changes (from 1900 to 1970). His focus is scientists' commitment, or lack thereof, to a 'scientific' ethos at various levels of academic institutions and industrial enterprises. Knorr-Cetina's article continues her evolving work on the notions of 'practice' and 'object'. One can look upon it as an exploration of Barnes's sociality. The main thrust of her essay is to posit a relational–affective mode of doing science, founded on two interwoven distinctions: between practice as 'performative' research routine and practice as a 'relational', dynamic process, disruptive and potentially innovative; and between objects in our everyday acquaintance and 'knowledge objects' or epistemic (nonhuman) objects, distinguished by their multilevelled incompleteness, partiality or indefinite unfolding. MacKenzie elaborates on Barnes's and Bloor's notion of 'finitism', and on Barnes's related interest in rule-following and in habits of classification, in order to elucidate the production of financial reports, looking in particular at bookkeeping practices that combine automated and non-automated elements. In a case study of a medium-sized British firm attempting to make its way between UK and EU accounting regulations, MacKenzie shows how useful the finitist viewpoint is in trying to understand accounting as the contingent classification of particulars, and so as a practice dependent on human context and circumstances.

The final cluster of essays, by Mark Haugaard, Martin Kusch and Steven Loyal, revolves around notions of power and agency as expounded by Barnes and expressed in the complex interplay between individuals and collectivities. All three essays bring out the significance of the collectivity for Barnes (who cites Durkheim as one of his intellectual sources), his sharp criticism of individualist positions in current sociology, and his effort to present what he has termed a 'monist' and 'naturalist' social point of view. Drawing on Barnes's *On the Nature of Power* (Cambridge, 1988), Haugaard offers an analysis of the concept of power, distinguishing between legitimate and illegitimate varieties. But he removes Barnes's conception of power as capacity for action from the methodological plane and locates it instead on a normative one, deploying Barnes's construction of social knowledge through social rings of reference, and injecting normativity into his notion of a social agent. Kusch offers a brilliantly crystalline and sophisticated philosophical critique of the analysis of the 'free will', or voluntaristic, discourse in Barnes's later book *Understanding Agency: Social Theory and Responsible Action* (London, 2000). Kusch applauds Barnes's relating of the discussion of responsibility, agency and free will to collectivist sociality rather than to individualized discreteness, but calls him to task for not taking sufficient notice of philosophical discussions of free will and related topics, such as the significant use of intuition versus empirical observation in formulating moral theories, and the meaning of legal practices and formulations. Another variation on these themes is offered in Loyal's essay, which applies this same book's conceptual framework in a discussion of the status and predicament of asylum seekers in Ireland. He views Barnes's ideas as a fruitful way to escape the apparent need to choose between utility-based microcausal explanations of the situations of migrants and refugees and historical–structural macrocausal explanations. Loyal elaborates in particular Barnes's notion of statuses, accountability and susceptibility, seeing in these valuable tools for analysing actual case studies and the role in them of agency and responsibility.

The last essay, by John Dupré, consists of a sharp critique of evolutionary psychology through a succinct but intricate summary of the state of the art in present-day biological research on evolutionary and intergenerational transfer conceptions and mechanisms. It is related to the

above cluster by his rejection of the highly discrete and individualized gene-centred view of heredity adopted by evolutionary psychology. This view is contrasted with the emphases on developmental systems, nongenetic hereditary mechanisms, environments and multilevel dynamic interactions offered by recent biology.

Knowledge as Social Order is a valuable, though not evenly interesting, volume. It gives readers an acute sense of why discussions of sociality, social constructivism at large, and Barnes's work within it, have created a body of work that keeps on growing and is still relevant.

RNAIT B. GISSIS
Tel Aviv University

ROGER SMITH, *Being Human: Historical Knowledge and the Creation of Human Nature*. Manchester and New York: Manchester University Press, 2007. Pp. viii + 288. ISBN 978-0-7190-7498-1. £25.00 (hardback).

doi:10.1017/S0007087409990203

Roger Smith's thesis is that the essence of 'being human' lies in the historical nature of human existence. Attempts at pinning us down in the empirical, 'value-free', physical terms of the natural sciences are thus misguided. The categories we deploy to construe and give meaning to ourselves and our world all have histories. Generated by historical conditions, including evaluative traditions, these categories serve to effect further historical change, which in turn rebound on the categories to alter their meanings and functions. Understanding 'being human' is therefore a historical task through and through. Our humanity is our history, and knowledge of that humanity must have a narrative structure. A consequence of this thesis is the dialogic nature of knowledge creation about human existence; for, if understanding 'being human' is a historical task, then the history of efforts at acquiring this understanding itself takes centre stage.

Familiar though aspects of this argument are, it is no simple restatement of current 'critical theory' wisdom. Smith scrupulously ploughs his own furrow and, if clearly located within current debates, this is very much his own mature 'position statement', verging on a manifesto. It has been long awaited, since he is one of the most eminent historians of the human sciences, and surely its least anglocentric British representative – partly a result, one suspects, of his lengthening Moscow sojourn. Vico, Kant, Hegel, Dilthey, Weber, Collingwood, Cassirer, Gadamer, Foucault and Habermas provide the major reference points, although Whitehead, Sherrington, Geertz and Charles Taylor (among many others) are also significant.

What differentiates Smith's approach? First, his long-standing wrestling with the concept of the 'human sciences', notably in his *Fontana History of the Human Sciences* (London, 1997). This compels him to address the concept of 'science', including the incommensurabilities of its German and English meanings. He denies that the human sciences possess a uniquely reflexive character, and ably demonstrates how reflexivity operates in the physical sciences too. Nor for Smith is the difference methodological, the human sciences having frequently emulated the methods of the physical ones. In his view, the real difference is that the issues being addressed are of different kinds. Crucially, the subject matter of the human sciences – 'being human' – is a phenomenon of a logically different type.

Second, for all that his thesis is enmeshed in philosophical issues, Smith's historical approach means that he can avoid engaging them head-on. His take on philosophical accounts of 'human nature' reveals how these, too, have, in assuming some ahistorical 'essence' or 'spirit', failed 'to establish definitive and authoritative grounds for the theory of knowledge' (p. 55), and thereby failed to produce enduring answers. With empirical science and philosophy thus eliminated as contenders to knowledge about 'being human', only history remains standing. It bears emphasis, however, that, for Smith, being historical in no way requires one to be unscientific. His point is that, epistemologically, history is the most appropriate way to acquire knowledge of 'being