

Stefano Franchi and Güven Güzeldere, eds. *Mechanical Bodies, Computational Minds: Artificial Intelligence from Automata to Cyborgs*.

Cambridge, MA: MIT Press, 2005. Pp. viii + 538. \$95.00 (Cloth: ISBN 0-262-06243-7); \$45.00 (Paper: ISBN 0-262-56206-5).

The editors of this bulky volume tell us that an issue of the *Stanford Humanities Review* ‘constituted the seed of the project that culminated in this book’ (vii). They don’t say that it was the Spring 1995 issue of that pioneering open-access e-journal, nor do they tell us how many or which of the 19 papers in this book derive from it. But since that issue is still online (as at August 28, 2006), at <http://www.stanford.edu/group/SHR/4-2/text/toc.html>, any reader can see that 12 of its 15 papers have been reprinted almost unaltered here, a decade later, while in addition almost all of the editors’ 1995 introduction appears again in their expanded text.<>

Whatever the quality of these 12 papers, then, one is bound to wonder about the rationale for reproducing them: the editors give us no account, nor do they explain their choice of additional material. Never mind that we are not told why the editors have reprinted Dretske’s ‘Machines and the Mental’ from not 10 but 20 years ago: it is an important paper, after all, although the reader wouldn’t know from this volume that it has elicited a huge amount of commentary and attention since 1985, or that it pre-dates Harnad’s 1990 similar arguments on ‘symbol grounding’. More worrying is that they don’t even tell us *that* it is a reprint, or give any indication at all of its provenance.<>

The source of the reprinted 1997 *Slate* debate between Dreyfus and

Dennett about Kasparov's defeat by Deep Blue is acknowledged (though it too is still online, at <http://www.slate.com/id/3650/>). But the mishandling of Evelyn Fox Keller's interesting paper will cause more confusion. It is titled 'Marrying the Premodern to the Postmodern: computers and organisms after World War II'. This sounded familiar, as Fox Keller has an excellent paper of this title in a 2002 volume *Prefiguring Cyberculture: an intellectual history* edited by Tofts, Jonson, and Cavallero. No problem so far: that volume too is published by MIT, who (I assumed) must have some good reason for wanting to reprint it here, and indeed it would fit nicely with Andrew Pickering's strong paper 'A Gallery of Monsters: cybernetics and self-organization, 1940-1970'. But the paper in the current volume, it turns out, is not *that* paper, and indeed is not on the topic of its title at all – there is nothing here about the postwar biology and cybernetics which is Fox Keller's topic there. So what *is* the (mistitled) paper in this book, which discusses cellular automata and Artificial Life? More detective work reveals it as the final chapter, 'Synthetic Biology Redux', of Fox Keller's 2002 book *Making Sense of Life*, reprinted without acknowledgement.<>

Of course delays and setbacks can occur in the arduous process of getting a collection of essays together for publication, or republication; and errors can creep in to the most careful editors' work. But it is disrespectful not to tell the reader explicitly that most of these papers are ten years old or more, or to explain the selection. The project would have been much better justified by a more thorough culling of the original journal issue, by inviting more additional contributors to write new pieces, and to ask the authors of those 1995 papers which do still stand critical scrutiny to add updates or commentaries on subsequent developments.<>

The subtitle of the 1995 e-journal issue - *Artificial Intelligence and the Humanities* – gives a more accurate flavour of the editors' intent than the current title. Their long joint contribution is a sprawling 134-page chapter which is the most substantial addition to the 1995 publication. It bears the same marks of hurry or inattention as the whole, with disconnections of content, multiple repetitions of theme, and incoherent organization: it's particularly regrettable that the chapter has not been radically edited and tightened, because there is an important thesis at its heart. Franchi and Güzeldere seek first to establish a distinction and then a dialogue between 'AI', understood as a narrow research program established in the second half of the 20th century, and the 'broader intellectual project' of 'artificial intelligence' which spans the whole history of 'human attempts to create intelligence' (16); and then to suggest the use of this dialogue to forge a 'direct, close engagement between the sciences and the humanities' (123). Amidst a farrago of second-hand historical and philosophical anecdote, they mount a passionate defence of Philip Agre's call to transform AI into an 'interdisciplinary switchboard for the constructions of principled characterizations of interaction between agents and their environment' (78-9). The dramatic shifts within the cognitive sciences over the last decade, by which cognition is increasingly seen as embodied, dynamical, situated, and distributed, are briefly surveyed. But it is odd that despite their rather vague hopes for 'the study of cyborgs', the authors glance only in passing at Andy Clark's significant post-connectionist efforts to realign the cognitive sciences from within; and bizarre that their positive invocations of phenomenology's importance for cognitive science is backed by no more than the briefest references to the work of Dupuy and Petitot, and none at all to that of Shaun Gallagher or Evan Thompson. Readers who are all in favour of specific, telling, better mutual interactions between AI and history (or anthropology, or

sociolinguistics, or developmental psychology, or media theory, or sports science, or cognitive archaeology ...) will sadly not find anything precise here (or in the volume as a whole) to justify the bare claims that 'the professional AI community ... failed to comprehend the magnitude' of their project, or that this project should be relocated 'in a much broader intellectual framework' (66-7).<>

Grumps aside, some of the 1995 papers are excellent. Philip Agre's 'The Soul Gained and Lost: Artificial Intelligence as a Philosophical Project', Douglas Hofstadter's 'On Seeing A's and Seeing As', and Harry Collins' 'Humans, Machines, and the Structure of Knowledge' can each serve as fine introductions to their authors' bodies of work. Bruno Latour and Genevieve Teil's 'The Hume Machine: can association networks do more than formal rules?' is a remarkable and undernoticed intervention in the methodologies of social science. And Stephen Wilson's 'Artificial Intelligence Research as Art' describes some of Wilson's interactive artworks of the 1980s and early 1990s along with some sane reflections on the aesthetics of what's since become known as android science, and could well serve to structure a course on AI and art along with related MIT books such as *The Robot in the Garden* (ed Goldberg), Mitchell Whitelaw's *Metacreation*, and Wilson's own *Information Arts* (2001). But barring Dretske, Fox Keller, and Pickering, the other contributions, both old and slightly less old, are disappointing. The readers most let down by this are those who would advocate the relevance of the crucial fields in question – feminist philosophy, literary theory, philosophy of language, pragmatist social theory, phenomenology, theology, and philosophy of technology – of which these are not worthy exemplars. Any effect of this volume as a whole may then be counter-productive, ceding ground to a narrower, universalizing classical computationalism which rejects theories in philosophy, the humanities, and the social sciences

as 'too incomplete and too vaguely stated' (Winston and Brady, quoted by Franchi and Güzeldere, 67). This would be sad at a time when there really are enough clues around in the interdisciplinary mix to signal interactive, productive dialogues and collaborations between research on robotics and affect, neurobiology and narrative, connectionism and culture, or memory and social ontology. <>

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