Faraday undertook such analyses out of a sense of scientific and, on occasion, patriotic duty–he looked at Thomas Mitchell's salt water from New Holland, responding to a call 'for the good of Australia'. But he saw such mundane labours as 'sad consumers of that which I purchase at a dear rate namely *time*'. Faraday's industry is, even for an age that worshipped energy and hard-work, astounding (his view that time is money perfectly conventional, however). 'I am fagging hard & have scarcely time to eat my meals', he scrawls in 1837.

Did Faraday really work at his 'principal pleasure', science, 'from six in the morning till eleven or twelve, at night'? Such was the claim made on his behalf in a memorandum to prime minister Robert Peel seeking the grant to Faraday of a £300 civil pension. If by science is meant toil in the laboratory, then certainly not. But a more generous interpretation would include teaching, writing, committee work and the customs of sociability, and with these Faraday was tirelessly, if often unwillingly, engaged. Claims to priority seem on the evidence of this correspondence to have occupied him a great deal, and try as he might to avoid it, so did the press of polite society. Several people write out of the blue for a portrait of the distinguished chemist or merely for 'the favour of your signature'. Faraday seems not to have replied. Nor is a reply of his extant to a Mr W. Gibson, who writes asking to be snatched from 'the iron grasp of poverty' with employment at the Royal Institution. I found this letter (number 1187) the most revealing in the book: in barely 500 words of rude and careful eloquence we see a sudden glimpse of the world Faraday himself had left behind when he gained employment in London and how metropolitan scientific culture appears in 1839 to a labourer from the north. No one interested in working-class and provincial science or in the protocols of patronage can afford to miss Mr Gibson's superb appeal.

Although Faraday claims at one point never to go out for dinner, 15 August 1839 finds him sharing the evening with Miss Angela Burdett Coutts at the 'Electric Eel'. Not, one hastens to add, a London tavern but a tub of gymnoti displayed at the Adelaide Gallery. Faraday never strayed far from electricity, even in company of ladies. Which brings me to one of only a handful of perplexities left unilluminated by Frank James's thorough, extensive and scholarly reach. While he illuminates many corners left obscure in L. Pearce Williams' *Selected Correspondence of Michael Faraday,* I am left wondering what on earth was being tendered Faraday when in 1839 John Webster sent an account of 'two very *electrical ladies*'? We should, I think, be told.

Unit for the History and Philosophy of Science,
University of Sydney, Sydney, New South Wales, Australia.

History, Language and Mind

METASCIENCE new series 5 (1994)

By John Sutton

Graham Richards, *Mental Machinery: the Origins and Consequences of Psychological Ideas. Part 1: 1600-1850.* London: Athlone Press, 1993. Pp.xii + 490. UK £50.00 HB.

Many teachers of undergraduate history courses in philosophy and psychology (or Psychology, to adopt Richards' convention for differentiating the Discipline from its subject-matter) will find this book a joy to teach with. The writing is clear, witty, and provocative: it is an enormous advance in style as well as content on the mass of ordinary history-of-Psychology textbooks. Enormously ambitious and bibliographically passionate, Richards treats his 'intolerably vast' territory (p.392) with something approaching the 'daunting level of multidisciplinary historical expertise' (p.97) which it requires, and with a humorous nose for the farcical too. His success in synthesising modern contextualist scholarship in the relevant areas of the history of science, and applying it accessibly within a survey format, is beyond dispute.

The material is divided at various points according to chronology, discipline, or national/institutional difference. In both length and strength, the eighteenth-century is the focus; the promissory chapters on early nineteenth-century German, British, and French 'routes' to Psychology point towards an intended second volume on the later period. I leave to the reader's pleasure Richards' sharp critiques of the lacunae and agendas of mainstream history of psychology; his recuperation of phrenology and mesmerism from history of science for history of Psychology; his sustained attention to Reid and Scots philosophy to counterbalance fixation on a 'British Associationism' the unity and importance of which Richards questions; his careful and amused tours across primary and secondary literature on education, psychiatry, sex, proto-anthropology, and much else.

When Richards has brought so much wonderful material to light, it seems more than usually carping to point to gaps: but two, I feel, are significant. He attends throughout, if always briefly, to difficult questions

about the emergence of 'new autonomous individuality' as a condition of possibility for the study of a realm called 'the psychological', and balances Foucauldian unmasking of growing managerial subject(ificat)ion in the human sciences with caution about specifying times before which there were not unitary subjects. In these areas, Richards' acknowledged bracketing of literary history and of certain strands of philosophy is perhaps responsible for the scantiness of his treatments (pp.132-3, 242-6, 372-3). He fails to deal with any philosophical accounts of personal identity, even Locke's or Hume's, and thus misses one set of symptoms and sources of wider cultural concerns about unity and continuity of self. Abundant recent work on the production and maintenance of selves in literature is absent, where use of research on both the Renaissance and seventeenth century (Greenblatt, Dollimore, Belsey, Barker) and the eighteenth century (Spacks, Cox, Lyons) would allow greater integration of theoretical with cultural sources.

Secondly, Richards' lack of sympathy for cognitivism of any sort in modern philosophy and psychology means that he tends to use a stark opposition between social/contextual approaches to mind and representationist theories which seem to rely on static, pre-linguistic ideas. Although he has reached some important conclusions which point against this dichotomy (for example, that associationist 'ideas' were never essentially atomistic, but could incorporate holistic context), Richards accepts that 'epistemization' was a central philosophical change in the seventeenth century: a reference to Yolton's work notwithstanding, this is still the view that what Rorty called the 'original sin of modern philosophy' was the invention of mental representations which cut the subject off behind a veil of ideas. Nowhere mentioned are alternative histories from within philosophy of mind (Gary Hatfield, Theo Meyering, Kathy Wilkes), which look in a naturalistic history for representations of a different sort from the static local representations of classical cognitivism.

But, beyond the pros and cons of Richards' treatment of specific topics, the book's most interesting aspect is the attempt consistently to apply to the historical material Richards' own metapsychological perspective, developed in detail in his 1989 book *On Psychological Language.* There are, as I understand it without having read that book, two central strands to this, both of which are usefully contentious and historically fruitful. Firstly, Psychological Language develops in a 'physiomorphic process' by incorporating, by metaphoric redescription and interiorisation, terms from 'World Language' (from changes in technology, forms of social life, scientific theory, and so on). Richards is at his best in tracking down historical assimilation of new external terms (world-novelty) into 'reflexive discourse'. His chapters on 'the language problem' (the seventeenth-

century hostility to metaphor as part cause of the lagging development of Psychology), and on 'ideas of language from Locke to Tooke' (analyses of four different strands of Enlightenment linguistic theory, plus Coleridge) are outstanding, showing how physiomorphic innovation went on, for instance by incorporating into reflexive discourse new terms for bodily processes in physiology and neuroscience, against explicit resistance to the treachery of metaphor. Richards' planned 'empirical philological survey of English psychological language' is to be keenly awaited.

Richards' second claim (though I am not sure he would want to distinguish them) is stronger, and characterises the avowedly 'linguistic nature of the approach being adopted' (p.8). Just as Psychological Language is constituted by World Language, so 'the psychological', the subject-matter for Psychology, is essentially constituted by Psychological Language (p.396). The claim is expressed in different ways: the psychological 'exists primarily as the terms in which reflexive discourse is conducted' (p.3), is ('for modern *Homo sapiens sapiens* at least') generated, created, or determined by language (pp.19, 107, 131). Even if there are 'natural' psychological properties 'lurking, as it were, behind the language', they are 'knowable only as linguistically encoded' (p.19). This ontological claim about 'the psychological' is not entailed by the previous claim about the sources of Psychological Language, and in this extreme form raises a number of problems. What is the relation between the psychology of creatures with Psychological Language and that of pre- or non-linguistic creatures? How, if psychology is constituted by Psychological Language, can the claims made in that Language ever be in error, or the entities, properties, and processes referred to in that language ever be rejected? How, finally, *within* Richards' work, does this stress on public language square with his odd statement of 'the metapsychological problem' driving the whole book, that of 'how 'psychological language' is possible in the first place, *given that the phenomena to which it refers are ultimately subjective'* (p.391, my italics)? It is surely possible to maintain a gap between psychology and Psychological Language while still attending, as Richards does so well, to historical changes in that language: but the logic of historical (as of cross-cultural) sciences of mind which question the relation between shifts in language and shifts in psychology is rendered much too simple by simply collapsing the two. Richards' admirable wish to 'subordinate the history of Psychology to the history of psychology' (p.93, pp.5-6) is not so easily implemented.

Perhaps it is, in part, Richards' unwillingness to take either unconscious mental states or physiological psychology as explanatorily satisfactory which leads him this way. Descartes may have given mechanical

accounts of memory, imagination, perception, dreams and the like: but this was not Psychological, because he could not explain 'the *psychologicality* of such events, i.e. their *conscious* construal' (p.66, Richards' italics). Despite attending to the role of physiology in breaching boundaries between physical and psychological domains and introducing new terms into Psychological Language (pp.64,92-3, 197-9), and noting the unhelpful state of the historiography of the neurosciences, Richards himself seems to see physiology, or any 'literal . . . physical models' as somehow *not* Psychology, accusing only behaviourists and reductionists of disagreeing (pp.66, 394). Thus Richards (pp.67-9, 394, 429) heaps praise on Robert Hooke's (admittedly fascinating) model of memory, somewhat misleadingly called 'thoroughly materialist', as uniquely 'technical and Psychological' in its explicit incorporation of physical theories into a genuinely 'proto-Psychological' system. The criteria at work here to differentiate genuine 'Psychology' from the mere physiology of theories of memory in Descartes, Hobbes, and others are not clear.

Such challenges to Richards' strategy and claims arise at many points, proving the book's fertility. (Two minor oddities are the portrait of Locke as 'a political radical' (p.31), and a chronologically impossible reference to Stahl [p.39–should this be Steno?]). Readers across a huge range of historical disciplines will find their own stimulation. I look forward to the sequel.

School of History, Philosophy, and Politics,
Macquarie University, Sydney, Australia.

Some Antipodes of Folklore

By Godfrey Tanner

Gregory Schrempp, *Magical Arrows: The Maori, the Greeks and the Folklore of the Universe.* Madison: University of Wisconsin Press, 1992. Pp.xviii + 217. US$16.95 PB.

Despite the slightly excessive claims made for this 'paradigm shift' or 'intellectual earthquake' in Professor Sahlins' Foreword, Dr Schrempp's development of his doctoral study is likely to prove very influential in aspects of the discussion of myth, religion and cosmology. It constitutes a persuasive contribution to the relationship between philosophy and folklore as well, while offering a new insight into the interaction between the mythical narratives and the cosmological system of a given traditional culture. A closely argued analysis, it remains reasonably readable, despite occasional lapses into the dialect of 'Thesisese'.

Central to Schrempp's position is the exegetic value of Kantian concepts, combined with an explanation of the limitations in the philosophical preconceptions of Boas and Durkheim which were imposed by the *Zeitgeist* of their time (pp.160-8). His approach to the relevance of Zeno the Eleatic's world view and its parallels with Levi-Strauss (pp.23-38) is original and suggestive. Again, the parallelisms found between Zeno's cosmological outlines (p.169) and the Maori cosmology of Te Rangikaheke (pp.186-8) fully justify the author's return to comparatism between remote cultures in the tradition of Frazer, but with his own novel methodology. However, to me, the most interesting proposal is that paradox must imply a difference between cosmic and logical truth. A logical impossibility based on infinite divisibility is negated by experience, and thus two conflicting truths are possible, since they operate on different levels. 'Something like the possibility of this sort of double or alternating formulation seems to run through much of Maori social thought' (p.66).

The introduction (Sages and Sophists) deals with a number of the theoretical issues raised above, and is important in justifying the long unpopular use of 'cross-cultural' studies in Sociology (pp.5-6) and in explaining Kant's *Transcendental Dialectic* doctrine of the antinomy of