

Half-hearted exorcise

John Morton

No Ghost in the Machine: Modern Science and the Brain, the Mind and the Soul. By Rodney Cotterill. Heinemann: 1989. Pp. 341. £17.50.

RODNEY Cotterill has written a sort of anti-Thatcherian tract. He claims that dualism is the currently standard view of the mind-body relationship, and finds (p. 4) that the associated "assumed freedom of will is altogether too convenient a device for letting us justify the belief that equality of opportunity is all that should be required of an equitable society". He comes down firmly on the side of determinism, with a mechanistic view of the mind. Nevertheless, he deems it prudent "to acknowledge that such points of dispute as the existence and nature of God, and perhaps also the creation of the universe, lie fundamentally outside our understanding" (p. 8). Nonetheless, Cotterill wishes to "explode the myth of the soul". In relation to this, I should, perhaps, declare myself as a more prudent mechanist.

Cotterill's targets are religion and the law. We learn that 150 years ago one could read in a medical textbook that mental illnesses were "the sinner's retribution at the hands of God, and were caused by deprivation of free will" (p. 217). Further, "It might seem that the legal establishment would grind to a halt if it could be proved that the idea of free will is fallacious." (p. 280). In pursuit of such targets, Cotterill discusses the genetic constitution of risk-takers who have "a regrettably high probability of ending up in gaol . . . Incarcerating one of these unfortunates in a penitentiary, and condemning him to a life of inactivity, is not only grossly unjust; it is biologically unsound." (p. 177). He also discusses patients suffering from general paralysis of the insane, characterized as capable of nothing but stereotyped reactions and "docile to the point of immobility". They have clearly lost their free will, but was the loss sudden or gradual? A sudden loss would have to be reconciled with the continuous loss of neural function. A gradual loss of free will, on the other hand, would imply that "wills are Orwellian: all are free but some are more free than others" (p. 280).

So far, so good. But these should have been the starting points of Cotterill's arguments rather than robust interludes. Most of his book turns out to be a pop introduction to current work in human biology: the latest in genetics, neurophysiology and the like. For example, Cotterill discusses studies that "have revealed a strikingly unromantic picture of the nervous system" (p. 79). There is no mention of who does have a romantic view of the

dendrite; through most of the book the reader has no notion as to the nature or origin of the arguments supposedly being countered.

As strange is Cotterill's omission of cognitive psychology. Indeed, I suspect he is an eliminative reductionist; that is he would prefer to dispense with the

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Winston Smith (Edmond O'Brien) struggles for free will in 1984.

psychological level as well as the spiritual. He does manage to report some of my own unpublished work (and gets it correct!), but otherwise his coverage of the field is unimpressive. On the topic of autism, for example, he refers to two books published in 1971 and one in 1972. Things have moved along considerably since then and it isn't true that "the most striking feature of the autistic patient is his or her lack of desire to originate any activity, however modest" (p. 171). Or that people with autism "seem to live within an invisible shell, incapable of interacting with their surroundings" (p. 227). Although the best currently available book was too late for Cotterill (*Autism*, by Uta Frith; Blackwell, Oxford 1989; see review by Peter Bryant in *Nature* 341, 395; 1989), there has been ample recent work stressing the communicative nature of the autistic problem. In fact, Frith's position anchors autism more firmly to a biological basis than does Cotterill's outdated characterization. The proper explanatory options of the autistic problem are not to do with will (although there is no idea too silly to find proponents), but are to do with the alternative social-emotional or psychological learning theories.

Many readers will be surprised to learn

that "Anatomical and physiological investigations, undertaken during recent decades, have elucidated the roles of almost all of the brain's components." (p. 54). On the neural underpinnings of language, Cotterill relies on a view that could have come from the nineteenth century, and he would not pass a first-year exam with the phrase "the innate language structures . . . are possessed by all except those who are unfortunate enough to have a speech impediment" (p. 197). Given such rubbish, I begin to doubt Cotterill's accuracy in the areas I am not familiar with.

Towards the end of the book a possible target for Cotterill's deeper concerns emerges in his reports of the experiments by Benjamin Libet and his colleagues who showed, essentially, that judgements of the instant of stimulation of a subject's skin were referred back to 450 milliseconds before the conscious response could have occurred. Libet found these results suggestive of dualism, and Eccles and Popper, in their book *The Self and its Brain* (Springer, Berlin, 1977) claimed "This antedating procedure does not seem to be

explicable by any neurophysiological process." This is a serious challenge to Cotterill's position, one which he explains by the notion that "decisions could be programmed subconsciously". In this he claims affinity with Freud (but he should, of course, have referred to the unconscious). "The idea that there is more going on in the brain, at any instant, than is directly orchestrated by consciousness might seem difficult to swallow." (p. 268). This is the moment of Cotterill's revelation! Some cognitive psychological discussions of the nature of consciousness would have been a short-cut to this conclusion. But Cotterill includes little or nothing of such work, nor of the appropriate philosophy, nor modern theology, all of which should have a place in a tract with these pretensions.

Cotterill's last sentence is a fitting climax to his loosely argued work: "If there is a hereafter, what am I actually going to do with myself for the next umpteen billion years?" Does he not fear he will have to repent? □

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