

Conference reports

Mind and brain in Oxford

The Atom in Mind*

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Recent mathematical and experimental developments in quantum mechanics have given a new practical urgency to traditional philosophical concerns about the relationship between the observer and observed. Whether inspired by this or not, over the last few years there has been a spate of books and articles, many of them by non-philosophers, addressing various aspects of the mind-body problem.

The idea behind the Oxford conference was to bring together a number of those who have contributed to this literature. A variety of disciplines were represented – philosophy, physiology, mathematics, theology and psychiatry – and the papers were correspondingly diverse.

Introducing the conference on an uncompromisingly reductionist note, Colin Blakemore offered a thought experiment from neuroscience. Suppose, he said, that we could reproduce the functions of an individual neurone with a silicon chip: the question then arises, how many of the neurones in someone's brain could be replaced with such chips before we would feel obliged to say that the resulting machine was conscious?

The other neurophysiologist present took an equally firm line in support of an essentially Cartesian interactionism. Sir John Eccles argued that the possible quantum-mechanical nature of synaptic transmission between neurone and neurone, combined with a detailed examination of the actual physiology and anatomy of the brain, could provide the basis for an explanation of how mind and brain affect each other.

Other contributors were less content with the available options, either physical or philosophical. The theoretical physicist-turned-theologian John Polkinghorne argued that there had to be a sense in which mind and brain were complementary: but the sense in question could not be the same as that in which quantum-mechanical variables (or pairs of

observations) are complementary. Similarly, Michael Lockwood suggested that, far from quantum mechanics providing a model of mind, the very existence of consciousness could be a pointer to the inadequacy of existing physical theories.

Functionalism also came under attack, and from two quite different directions. Roger Penrose showed that minds are capable of operating in ways that cannot be represented algorithmically, even in principle – hence brains are not computers. From psychiatry, on the other hand, Bill Fulford argued that the given phenomenology of mental illness, in particular of delusions, placed constraints on accounts of mind and brain that functionalism was unable to satisfy.

The theme of the inadequacy of existing theories was taken up by Thomas Nagel in a concluding philosophical commentary, in this case though to question the *raison d'être* of the conference itself. The mind-body problem, he suggested, was a specifically philosophical problem, and it was wildly optimistic to believe that it could be tackled using the techniques that had proved successful in other disciplines.

The issues addressed by the conference, philosophical as they may be, are issues no less for the other disciplines represented: self-evidently so for psychiatry, neurophysiology and theology; and now, with the recent developments in quantum mechanics, for physics and mathematics as well. There is surely merit, therefore, in pressing the techniques and theories available in these disciplines to their limit, if not with any expectation of immediate success, at least in the hope of provoking new philosophical ideas.

This report will also be appearing in *Philosophy Today*.

The conference was the first to be organised by the Philosophy Special Interest Group. If you would like information about the Group please contact Dr K. W. M. Fulford, Department of Psychiatry, Warneford Hospital, Oxford OX3 7JX.

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