

## REVIEWS

THE FREEDOM OF NECESSITY. By J. D. Bernal. (Routledge; 18s.)

In the preface to his latest work Professor Bernal elucidates its rather puzzling title by telling us that 'it expresses the intrinsic character of modern scientific thought that freedom is to be measured by knowledge'. We act in accordance with laws. When our ignorance prevents us from understanding the law, or even knowing of its existence, we claim that we are free to choose this or that alternative. As our knowledge advances we shall come to understand that we chose this (and not that) in accordance with a law. Freedom is therefore, for Professor Bernal, inversely proportional to knowledge. He illustrates his point of view, so clearly incompatible on this ground alone with Catholic teaching, by reference to the behaviour of the molecules of a gas in accordance with the laws of Boyle and Charles. These laws express the *average* behaviour of a gas under changing conditions in their environment. Professor Bernal goes on to argue that 'this is true also of course about human beings' and that 'the much vaunted free will of the individual' is his ignorance of 'the antecedent causes by which man is determined'. In the average effect formulated in Boyle's law the individual response is not considered. The same kind of generalisation can of course be made with regard to human acts—that 'by and large people can be counted on to behave in a certain way'. But if one examines the response of any individual it may be found to be contrary to the generalisation without the latter being rendered invalid as the validity of the universal term is not destroyed by a contrary particular term. Such statements carry a discussion on individual liberty no further. 'Their individual freedoms cancel out in average behaviour' does not disprove the reality of the individual freedoms. A 100 per cent affirmative response in a gallup poll could suggest one of several things but least of all would it deny the freedom of the individuals concerned to make a negative response had they felt disposed to do so. The supremacy of science and its absolute dominion over every other order of thought Professor Bernal takes as his central theme. If freedom was in his opinion not 'an illusion' but a reality one might understand the foresight that prompted him to grant to scientists a monopoly of that desirable commodity. But after proclaiming for page after page that freedom is an illusion, one comes to page 131 and finds the statement that 'the scientist needs freedom to get on with his job and to both give and get the best in relation to other workers'.

It is no doubt true that scientists alone are capable of formulating a plan for science since they alone know what science is about. The lesson to be learned from that observation is surely that the same will be true *mutatis mutandis* for specialists in other branches of learning. Neither mediaeval history nor the teaching of the Church may be Professor Bernal's subject. His attempts to provide

his readers with an ad hoc survey of both leave much to be desired. Such statements as 'the saints were better for most purposes than the minor angels because they had been on earth' as a sample of mediaeval theology hardly commends Professor Bernal's grasp of his subject. Silence is more easily excused and understood than nonsense by the confession that this is not one's subject.

In the essay entitled 'The unholy alliance' Professor Bernal speaks of the intellectual dishonesty which gave birth to the compromise made by an earlier generation of scientists between science and religion by which both parties agreed to keep up appearances by avoiding one another in the street. Professor Bernal's solution lies not in ignoring theologians but in ignoring the claims of theology to throw light on any contemporary problem. But he would not merely ignore theology but dethrone it and replace it with the dialectical materialism of Marxism in which he finds no such intellectual dishonesty. It is however a dishonesty differing in kind though not in degree to claim more for one's wares than they are worth. His treatment of the origin of the universe opens with the assertion that the universe need have no beginning and continues by pointing out that we can know nothing of the origin of the universe and that a philosophy is to be judged by what it does not say rather than by what it does say on this subject. He makes no mention of the fact that physicists have on purely scientific grounds proposed several at least very probable conclusions about the origin in time of the universe as for example in the law of increasing entropy. When on the other hand he reaches the causal as opposed to the temporal origin of the universe, Bernal ignores the challenge of St Thomas's teaching on contingency and his own attempt to explain this 'inexplicable' problem neither proposes an infinite series nor faces the implications of a finite series but talks vaguely of 'odd hundreds of stable atom nuclei' and 'assemblages of elementary particles' and 'the previous existence (unproved but pointed to) of a more concentrated universe in which the first atoms were built out of lighter units and where their formation led to a critical state which was resolved by the condensation of stars and their scattering in whirls through space'. To say that this is as far as one can go as a scientist is one thing, but to deny *a priori* the validity of *any* attempt by philosophy to go further is another.

T. HARPER.

DOGMATICS IN OUTLINE. By Karl Barth. (S.C.M. Press; 12s.6d.)

In this series of his lectures Dr Barth gives a summary of his theological position. While the book contains nothing which will surprise the reader of his other works, it will be useful to the student who merely wants an outline of the typical Barthian opinions. Here, as in everything else he has written, Dr Barth stresses the utter remoteness of the divine 'other', who lies beyond any human potentiality. The great problem for the Barthian is how to explain