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CONTENTS

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INTERNATIONAL CONTROL OF ATOMIC ENERGY (2)

WHILE, as Prof. M. L. Oliphant has pointed out (*Nature*, May 25, p. 679) in reviewing the proposals of the Lilienthal Board for the international control of atomic energy, countries whose interest in the peaceful production of power by nuclear methods is more direct than that of countries like the United States richly endowed with coal and other sources of power, may give somewhat different emphasis to some of the points raised, there can be no dissent as to the urgency of the whole problem. If political dilatoriness and self-seeking lead to obstruction and lack of agreement, the Lilienthal proposals and any like scheme may, as Prof. Oliphant remarks, instead of saving the world, have precisely the opposite effect. It is therefore encouraging to note that both the British and Canadian delegates on the Atomic Energy Commission have already signified the support of their Governments for the general principles of the American scheme based on the work of the Lilienthal Board.

It is at this stage that the technical and political aspects merge into the ethical plane ; the moral issues raised by the utilization of nuclear energy are the main concern of the report of a commission appointed by the British Council of Churches*, with Dr. J. H. Oldham as chairman, and including among its members Sir Walter Moberly, Prof. A. D. Ritchie and Mrs. J. L. Stocks. This report was the first considered statement by a representative group to appear in Great Britain, although it has been followed by the statement from the Atomic Scientists' Association, which includes as one of its aims the interpretation of the implications of the release of atomic energy to other men of science and to the general public. The report from the British Council of Churches has little to say on practical policy, but seeks to determine the principles on which policy should be based. In particular, it challenges men to free themselves from the tyranny of habit and of accustomed ways of thinking.

The Oldham Commission, as it may be termed, endeavours to keep in balance the two aspects of the release of atomic energy, which it points out is the culminating point of a process of continuously increasing control of the forces of Nature which has been proceeding for two or three generations ; it does not so much present us with new problems as make more acute and urgent problems already before us for which a solution would in any event have been imperative. Society is now confronted with no less than an immediate threat to the continuance of civilization ; and unless a war with atomic weapons can be prevented, the use for peaceful purposes of the hitherto unimagined sources of power now placed at the disposal of mankind loses all importance. Before men have learned to control wisely for human good the powers which they already possess, they have had given into their hands, for good or evil, powers of infinitely wider range.

* The Era of Atomic Power. Report of a Commission appointed by the British Council of Churches. Pp. 84. (London : Student Christian Movement Press, 1946.) 2*s*. net.

Of the political and social consequences of the new discovery, the Commission observes that atomic energy is a force too powerful and dangerous to be left uncontrolled in private hands; and that unless, and until, effective control of weapons of mass destruction is established, every State will have to reckon with the possibility of a completely devastating attack made without warning, and in consequence a nation may be forced to entrust to its Government the power of immediate attack or retaliation. Again, apart from the indirect consequences involved in such a state of preparedness, the atomic bomb constitutes a peculiar threat to the urban society which is the outstanding characteristic of modern civilization. There may well also be important and far-reaching psychological effects of the intensification of the feeling of insecurity which the atomic bomb has brought; and while the Commission recognizes the need for swift action in the political field, it believes that a real solution of the difficulties can be found only at a deeper level than that of political arrangement.

The substance of this report and its specific contribution to the debate are contained in the four chapters in which there are successively discussed the choice before society, the problems of power and law, power and the international community and science and society. A brief analysis of social engineering and planning in relation to human progress and of the contrasted attitude of withdrawal from the affairs of society—attitudes which are tending to divide the world into opposing camps—leads to a challenge to develop a responsible citizenship in line with the democratic tradition of Great Britain and of Western civilization, by constantly subjecting national organisation and power to the criticism and correction of ideas working in men's minds, and redeeming ideals and principles from ineffectiveness by supplying power and organisation to realize and uphold them. Stressing the grave dangers which attend the decay of the belief in progress, the Commission emphasizes the necessity for a moral and religious motive which, in Prof. A. N. Whitehead's words, "can render clear to popular understanding some eternal greatness incarnate in the passage of temporal fact".

Discussing next the conceptions of popular sovereignty and the supremacy of law, and the synthesis of power and law in the British national tradition, the Commission maintains that the coming of atomic power makes it more than ever necessary to preserve the conditions in which human lives can grow, and in a passage reminiscent of Lord Lindsay's discussion of the functions of the churches and the universities in his "Religion, Science and Society in the Modern World", suggests that our immediate task is to encourage everywhere groups which are learning to practise democratic fellowship and are thereby becoming the nuclei of a new social consciousness. Further, since ideas become effective by being embodied in institutions, it is a vital task in the present crisis to preserve and foster tradition, where it still survives, while at the same time fearlessly adapting it and expanding it to meet the demands of a changing society.

The achievement of democracy has been to curb and discipline power, not to abolish it; but although the Commission regards the realization of an effective world community as the most urgent task of our time and the only ideal which now offers reasonable hope of eliminating from human society the danger of atomic war, it does not suggest that such a world community is inevitable or easy to achieve. The obstacles are concisely indicated, and particularly the clash of irreconcilable ways of life which dominates the relations between the Anglo-Saxon world and that of the U.S.S.R. That dilemma is put as clearly as it is by Mr. J. Middleton Murry in his pamphlet "Trust or Perish"; but the Commission of the British Council of Churches does not conclude with him that Great Britain should declare that in no circumstances would we participate in another world war, and that this declaration should be made irrespective of the attempt to put the atomic bomb under international control. On the contrary, it is clear that the Commission is divided on the issue. Some at least of its members regard the problem as the provision of effective means of police action to restrain a lawless and anti-social member of the community of nations from seeking to attain its ends by violence, and that to assume that the best means of saving humanity from atomic warfare is to renounce in advance the right of defence might well prove to be a serious political miscalculation.

The Commission does not believe that Christianity is able with its present insight to pronounce between the two alternatives, but it urges that the intolerable nature of the dilemma by which we would be confronted by an outbreak of atomic warfare is an overwhelming reason for doing all in our power to further the proposal to eliminate from the armaments of all nations weapons adaptable to mass destruction. In the following chapter it admits that the Churches must recognize more fully than they have yet done that, in regard to a host of problems of conduct in our complex society, they do not know the right answer, and that that answer will be found only through the combination of ethical insight with the support of disciplined empirical research. Equally, however, it holds that the world which is apprehended by the methods of science is not the whole of reality, and the real danger to a scientific society is in the increasing opportunities which scientific advance presents to men's power-seeking impulse, and the inevitable extension of the field of organisation in which men are less and less related to one another as responsible persons and become interchangeable units in a vast machinery of production.

The Commission in fact has put the problem in much the same way as J. T. MacCurdy in "The Structure of Morale"; but it has not remarked, as he does, that what is needed is a new type of organisation, comparable in efficiency with that of the human body. Yet when it reaches the conclusion that the only adequate response to the challenge of the crisis resulting from the discovery of atomic power is that mankind should recover a new wholeness of living, it is not far from the position which Dr. MacCurdy

reached earlier from a wider point of view. Nor indeed does it differ widely from Dr. Wimperis' ultimate diagnosis of a great moral challenge facing us, the kind of challenge implicit always when we achieve new powers which can be turned to good or ill account.

To believe in the reform of human society may indeed be an act of faith, but to believe in it without a change of heart, it has truly been said, is an act of lunacy. Here on this ultimate moral plane we find little guidance as to how mankind may come to that humility of soul, the cleansing of hearts from pride, vainglory, hypocrisy and unworthy material ambitions which, Dr. Wimperis reminds us, may be part of the price that must be paid. One thing is certain: mankind must, in Mr. Murry's words, trust or perish; and one essential step to that trust must be the elimination as fully and swiftly as possible of all national claims to secrecy.

The rally of scientific opinion in favour of the free interchange of scientific information is duly acknowledged in the report of the Commission of the British Council of Churches as an event of outstanding importance. It has been made abundantly clear that free communication is the life-blood of science, and when the Atomic Scientists' Association in its memorandum urges that, as the scheme for international control of atomic energy becomes effective, the existing secrecy rules should be lifted and that eventually all research and development should be carried on freely and openly, with a duty to report to the United Nations Organisation any significant results, it is promoting not merely the interests of science itself but also that wider understanding out of which mutual confidence grows.

Powerful and unmistakable as is this support for freedom of communication—the statement also urges that the free movement and interchange of all men of science, including those working on atomic energy, be permitted and encouraged to the fullest extent—it is not support for indiscriminate or precipitate disclosure. That has been made plain alike in the American report on the International Control of Atomic Energy and in the British declaration, and also in Dr. Wimperis' little book; and nothing could be more unfortunate than any action by a responsible body of scientific men which suggested that it in any way condoned such disclosure or the violation of contract clauses. Apart from those technical questions with which the American report is concerned and to which the Atomic Scientists' Association has now given its support, there is no better way in which men of science generally can help forward the development of any scheme of effective control than by exerting themselves with the utmost determination and persistence to preserve both the integrity of science and the fullest possible freedom of communication, and to see that restrictions and secrecy regulations are relaxed or modified in response to reasoned agreement and as part of a considered plan. In that way, through exercising their own power with responsibility, men of science may make also some contribution, however slight, to the resolution of that moral dilemma which confronts both the continuance of civilization and the advancement of science.

ANTS AND MAN

Of Ants and Men

By Dr. Caryl P. Haskins. Pp. vii + 244 + 15 plates. (London: George Allen and Unwin, Ltd., 1946.) 12*s*. 6*d*. net.

THE behaviour of ants has excited the interest and the philosophical reflexions of man through the centuries. The parallels to be drawn between the social lives of these insects and those of the human race have only occupied attention in recent years. As the author of this book remarks, the question that comes into prominence is how far can we compare these ant societies with our own without becoming hopelessly involved in a bog of anthropomorphism? In other words, he goes on to reflect, can we legitimately "go to the ant" without reading into our findings many things that really do not exist? The consideration of these and kindred subjects and their elucidation form the main reasons for writing this book. As the author goes on to say, among the very few living creatures whose social development at all parallels our own, the ants are predominant. Their social system, however, is of far greater antiquity than that of man, perhaps by fifty, or more, million years. Ages before man had become evolved ants were already so much like their descendants that many of their fossil representatives have been relegated to living genera. Ants have the further advantage in that they have been able to depend upon a host of genera and species for the furtherance of their evolutionary trends, whereas the society of man has had, at most, scarcely a handful of species available. The inevitable consequence has been the survival to the present day of a nearly complete series of evolutionary forms among living ants—numerous 'missing links' and 'living fossils' are thus available for study. The evolutionary history of ants, therefore, is much more complete and much better preserved than that of man.

The dawn of ant evolution is considered by the author, in company with other authorities, to be traceable back to some of the primitive saw-flies that are only known to us as Jurassic fossils. From analogy with living saw-flies, it is concluded that these forerunners laid their eggs in incisions made in the tissues of living plants. It is but a relatively short step from such a habit for the female insect to deposit her eggs on the bodies of living animals instead of plants, and for the resulting larvæ to burrow into their vitals, instead of among cell walls and sap. So it would seem the parasitic Hymenoptera came into being. It was from such parasites that the bees, wasps and ants—the Aculeata as they are conveniently termed—are believed to have been evolved. From the ichneumon flies evolution may have gone on through the Scoliid wasps and finally to the Ponerinæ, which are the *stirps* of the ants.

Dr. Haskins gives a very readable and adequate background of some of the main features of ant societies and comments on the parallels to be found in some of them to features of the lives of mankind. He turns, where desirable, to a more detailed survey of certain special aspects of ant societies and gives careful consideration of the light they may shed on certain sides of human society. He deals in particular with certain phases of the social life of ants, and has little to say about their lives as individuals or of the physiological or psychological problems they present. This restriction is explained by the title of the book, since it is those phases of ant society