

# NATURE

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## ETHICAL BASIS OF ATOMIC ENERGY CONTROL

THE debate in the House of Commons on May 14 on the international control of atomic energy added little to what had been said earlier in the House of Lords. Mr. Mayhew, Under-Secretary of State for Foreign Affairs, made it plain that the Government accepts the view that in the present circumstances no progress is possible on the Atomic Energy Commission; but that if a solution of the atomic energy problem could be reached at all, it will be through the machinery of the United Nations. The Government has agreed to the suspension of the discussions for the time being because no effective system of international control is possible without a voluntary merging of some part of national sovereignty. Unlike ten out of the twelve nations represented on the Commission, Soviet Russia, he said, is unwilling to take this step, just as she refuses the complete openness also essential for the success of a scheme of international control.

The most interesting feature of the debate was the reference in Mr. Blackburn's speech, in raising the question, to Sir Edward Appleton's remark on May 13 that there is unlikely to be any final solution to this problem merely along technical lines. Mr. Blackburn added that he does not believe this problem will be solved without a religious revival, which would concentrate the minds and hearts of men upon loftier ideals than the materialistic ends with which we are so often confronted. This sentiment was echoed in other speeches in the debate, and was reflected both in the meeting held in London in the Albert Hall on April 26 to demonstrate the support of the Christian community for the idea of Western union and in other comments on that proposal, and in Mr. Churchill's notable speech at The Hague to the United Europe Congress on May 7.

Mr. Churchill urged that the movement for European unity must be a positive force deriving its strength from our common sense of spiritual values. It is a dynamic expression of democratic faith based upon moral conceptions and inspired by a sense of mission. In the centre of the movement stands a charter of human rights guarded by freedom and sustained by law. Moreover, the movement aims, he said, at the eventual participation of all peoples throughout the Continent of Europe, whose society and way of life are not in disaccord with a charter of human rights and the sincere expression of free democracy.

Mr. Churchill recognized that the world organisation cannot function without the active help of the third great and equal partner, nor can the shadow of war be lifted yet from the hearts and minds of men and nations. Meanwhile, we can create and combine the great regional unities and endeavour to prepare by patient and faithful service for the day when an effective world government will rest on the chief groupings of mankind. This main endeavour can lay the moral and spiritual foundations on which the statesmen of the Western democracies will be able to build the organisation which will achieve freedom from fear—the freedom that matters most to-day.

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Mr. Churchill's speech and the Congress itself should do something to foster a return to the confidence in Western democracy and in the personal and spiritual values upon which it rests.

Whatever form Western union may take—and the growth of the movement in the last six months has been remarkable—it represents a real determination among the peoples of Western Europe to preserve and strengthen their free way of life against the threat of Communism; and at the same time, it means not only a belief in the true values of Western civilization but also a knowledge of what Western democracy ought to represent. That implies a task of education as well as readiness to work for the ideal and determination to uphold it against challenge. Only as that task of education proceeds can there be created the volume of informed opinion which will afford not merely the moral support but also the close and understanding criticism which the statesmen of Western Europe will need as they deal with the many thorny problems confronting the working out of concrete proposals for closer union, with the sacrifices in national sovereignty that are involved.

It was a main purpose of the Albert Hall meeting to mobilize Christian effort and Christian faith in Western Europe behind the political, social and economic drive to turn our future into ways of peace and harmony. Material means, as Sir Stafford Cripps said, must be directed by spiritual vision, and the methods used inspired by those great traditions that have been built up in Western Europe through the centuries; and in a message to the meeting, Mr. Churchill asserted that the movement for Western union would come to naught unless the structure of the new Europe was built firmly upon moral and spiritual foundations. The question of atomic energy is only one facet of that problem of building an order in which there is freedom from fear. The report of the commission appointed by the Archbishops of Canterbury and York in 1946 to consider the British Council of Churches report on "The Era of Atomic Power" is, as might be expected, largely concerned with the moral issues which have been so prominent in the movement for Western union; and it indicates very clearly how much there is to be done before we can achieve a common mind on questions of policy which touch spiritual issues, or even make clear precisely what we understand by the moral and spiritual foundations of Western democracy.

The scope of the report is better indicated by its sub-title, "A Study of the Moral and Theological Aspects of Peace and War", than by its title, "The Church and the Atom"\*. Indeed, it scarcely touches on the ethical aspects which have so much concerned scientific workers, and which found a place in the B.B.C. talks on atomic energy in March last year. The Commission is, however, somewhat critical of the earlier report, "The Era of Atomic Power", one chapter seeking to correct the work of that Commission by setting atomic warfare in the context of warfare in general and of the doctrine of 'the just war', and to disentangle the moral question from

that over-insistence on the divine right of Western democracy which in "The Era of Atomic Power" tended to darken counsel.

What is said in this chapter should be pondered carefully. After setting forth the three accepted grounds or causes of a 'just war', it is observed that if in future the nations agree to establish an international tribunal, the definition of 'just cause' will have to be modified accordingly; the Commission then proceeds to elaborate the Christian tradition that a belligerent should always have as his ultimate end the establishment of peace founded on justice. It insists that there is also a proximate end which is determined by the particular justifying cause, and in this connexion it insists that a belligerent ought not to use more force on the whole than is needed to bring the enemy to terms, and that in the choice of weapons and methods of warfare he should always keep the limited end steadily in view, preferring methods of which the ill-effects are least persistent. A belligerent should do nothing unnecessarily to prejudice the incorporation of his enemy into the community of nations when once the war is ended. In short, the object of warfare is not to kill the enemy, but to disarm and so overpower him.

This is the doctrine by which the validity of strategic bombing and atomic weapons are assessed. The Commission is agreed that the 'obliteration' bombing of whole cities with high-capacity and incendiary bombs must be condemned. It is inconsistent with the limited end of a just war and violates the principles of discrimination just noted: it constitutes an act of wholesale destruction that cannot be justified.

Moral principle thus imposes, in the view of the Commission, considerable restriction on the use of strategic bombing as a means of warfare. Nevertheless, while maintaining that weapons of destruction should only be used in accordance with the moral rules that apply to them, and that these rules cannot be disregarded if the intention is not primarily to destroy but to administer "psychological shock", the Commission does not condemn outright all use of atomic power in war. Refusing to abandon the medieval conception of 'the just war', the majority of the Commission rejects Mr. Henry Stimson's justification of the use of atomic bombs in 1945, but believes that in certain circumstances defensive 'necessity' might justify their use against an unscrupulous aggressor. On the assumption that possession of atomic weapons to-day is genuinely required for national preservation, a Government is entitled to manufacture them and hold them in readiness. Moreover, the Commission considers that if any nation, or any group of nations, which is resolved to resist unscrupulous aggression, lets it be known that it holds itself entitled to defend itself in this way, such warning might go far to prevent the abuse of atomic weapons.

On moral grounds, therefore, the Commission appears to support the opinion that has often been expressed that, in view of Russian intransigence on the vital question of inspection, those nations prepared to make the sacrifice of national sovereignty

\* The Church and the Atom: a Study of the Moral and Theological Aspects of Peace and War. Pp. 130. (London: Church Assembly, 1948.) 4s.

should go ahead with such a scheme as has been approved by the majority on the Atomic Energy Commission. Even more pointedly, the Commission observes in its conclusions that the law of Nature requires all peoples to co-operate in promoting a world-order based on justice, and that at present the chief obstacle to such co-operation is found in the quasi-religious convictions and claims made by the U.S.S.R. The duty of fashioning a world-order remains none the less, and the Commission believes that Christians and all who recognize the claims of reason and justice should combine in attempting this work.

Other sections of the report, for all its caution and qualifications, are no less clearly a challenge to thought on the problem of power and its control, and the cultural, political and religious aspects of that problem. The Commission accepts Dr. Toynbee's view that the breakdown of civilizations has been due to internal and not external causes. The task that confronts us to-day is in part, as the movement for Western union recognizes, that of achieving political co-operation and spiritual unity; but it is bound up with the fact that the vast resources of physical and mechanical power which science and technology have put into man's hands can only be developed by the governments of wealthy and highly organised nation-States.

The Commission addresses itself to these questions in its final chapter, "Christian Duty in a World of Power", in which the man of science will find much to weigh and develop. In an earlier chapter, the Commission does not reject as explicitly as some have done the doctrine of neutrality in warfare, though by inference it appears to do so; but it does call for an effort to achieve a fuller understanding of the true order of human purposes which knowledge ought to serve. It upholds the emancipation of science and rejects the suggestion of an arbitrary restriction of scientific research, setting science rather in its true context as one phase of culture. Like the earlier report, "The Era of Atomic Power", it pleads for the achievement of 'wholeness of life', in which all science and all activity are duly subordinated to the knowledge and love of God to cure the fragmentation and distortion of truth caused by excessive specialization.

It is interesting to note the suggestion that science and religion should find their common meeting place not only in the field of reason but also of the imagination. We need to recognize, the Commission urges, far more commonly than we do, the large part played by intuition and imagination in scientific and technological research. Moreover, human society cannot do without the kind of insight and imagination which humane interests and studies alone can give; it is indeed for lack of these that civilization is perishing. The real safeguards against the abuse of knowledge are, in fact, spiritual and educational.

A better balanced education and the breaking down of barriers between the various fields of knowledge are necessary means to the achievement of unity, and the Commission welcomes the foundation of the United Nations Educational, Scientific and Cultural Organisation as evidence that most civilized

nations recognize the importance of the cultural factor. It insists, however, that the exclusion of religion from its purview vitiates the work of the Organisation, no less than its failure to recognize the need for a principle of unity in the cultural realm. Once again, in relation to proposals for a world authority or for an effective organisation for the control of atomic energy, the Commission records its conviction that fundamentally the problem of peace is spiritual rather than political.

Here the Commission goes down to fundamentals, and in this respect the report is of more value than the comments now included with the symposium of talks on atomic energy arranged last year by the B.B.C. (see p. 995 of this issue of *Nature*). Mr. N. Loewenstein, it is true, points out that we are still in search of some international code of morality as a substitute for a previous international religious faith, but no other commentator appears to see further than the necessity for some surrender of national sovereignty.

In the talk by Mr. H. A. Wallace with which the book concludes, it is pointed out that there may be no future unless the freedom of man and the peace of the world are preserved. Freedom is essential to science, nor can science come to full fruition except in a world at peace. Science is one of the cultural activities of man, one of the ways in which his creative powers and his questing spirit find expression. For that reason, if for no other, scientific workers cannot stand apart, either from the study of the moral and spiritual aspects of peace and war of which the report "The Church and the Atom" is one expression, or from those movements which, like that for Western union, are bringing about a rebirth of the European spirit and a fresh affirmation of the faith on which European civilization, to which science itself owes so much, has been built. However imperfect may have been the formal resolutions adopted at the Hague Conference, all present realized that the foundation of European unity is not material but spiritual, a common sense of ultimate values transcending all national ideological and religious differences. Science, which in itself makes such an important contribution to cultural unity, cannot but applaud the rebirth of that spirit of unity.

## MINERAL RESOURCES OF THE UNITED STATES

### Mineral Resources of the United States

By the Staffs of the Bureau of Mines and Geological Survey. Pp. x+212. (Washington, D.C.: Public Affairs Press, 1948.) 5 dollars.

THE pre-eminent industrial position of the United States is based upon her vast mineral resources. In many fields, her production of mineral raw materials exceeds that of any other country, a fact which had an important effect upon the course of the Second World War. The war-time acceleration of production revealed, however, that some branches of the mining industry were not equal to the strain, emphasizing, in addition, that for a few essential