

SCIENCE AND INTERNATIONAL POLITICS*

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IT was with a certain amount of reluctance that I accepted the invitation to address the Royal Institute of International Affairs upon the subject of "Science and International Politics". My hesitation was largely due to views expressed in the public press and elsewhere, after the recent Conference in London on Science and World Order, as to the desirability or otherwise of keeping science and politics within the particular fields of action commonly assigned to them. The Conference was organized by the Division for the Social and International Relations of Science of the British Association.

As science is an international study, the intention of the organizers of the Conference was to have the subjects of the programme presented from a world point of view. So far as I know, this was the first occasion on which many leading representatives of science, politics, and sociology, from many different countries, assembled with the common object of understanding each other's attitudes towards the subjects brought forward. It is not surprising that relationships of science to systems of government and to social problems attracted great public attention to the Conference, and that there were differences of opinion as to the value to the community of close or loose contacts between them. In countries where all the forces of science belong to a State service, the pursuit of knowledge for its own sake is not an organic part of the scheme of action, however much satisfaction it may give to individuals who undertake it, or however valuable the discoveries made may prove ultimately to be. Where science is regimented, no distinction is made between academic and applied scientists, and operations are assigned to each in the plan of campaign. Team-work is organized in the service of the State instead of being left to sporadic initiative.

This system of State planning of the pursuit of scientific knowledge with practical purpose as the aim is responsible for the great advances in science and industry achieved in the U.S.S.R. in recent years; and it has supporters among men of science in Great Britain. The basis of the system is obviously communistic; and British men of science who approve of it are regarded as both scientific and political revolutionaries whose activities are a danger to scientific freedom. Liberty of thought, work and expression is highly cherished in the commonwealth of science, and in Great Britain no conditions which would limit it would be tolerated. As citizens, men of science have the right to hold any political or religious faith, and the duty also of justifying it when needed. The general view is, however, that they should not embarrass science by advocating doctrines which would make her the handmaid of a particular political party.

This view was expressed by Sir Henry Dale in his presidential address delivered at the recent anniversary meeting of the Royal Society. "I see danger", he said, "if the name of science, or the very cause of its freedom, should become involved as a battle cry in a campaign on behalf of any political system, whether its opponents would describe it as revolutionary or reactionary. If science were allowed thus to be used as a weapon of political pressure, it would

be impossible to protect science itself from the pressure of sectional politics".

Sir Henry Dale's remarks led to correspondence in *The Times* on science and politics and the organization of research in the social sciences. No one suggested that an authority in a particular branch of natural science could be assumed to have expert knowledge and experience in the fields of the political and social sciences. On the other hand, it was acknowledged that these departments of civil life could with advantage make fuller and more systematic use of scientific methods of inquiry into the factors which determine human conditions and potentialities to-day.

By modern use, science has come to signify natural philosophy, or verifiable knowledge acquired by observation and experiment. When its field of work is thus defined, there is an impermeable membrane between science and politics. The partition is dissolved when science—the domain of reason—is defined as systematic and formulated knowledge in all fields of human understanding—natural, moral, social and political. At all stages of civilization, these factors have determined the conditions of human life in varying degrees; and in modern times scientific knowledge has been the chief element in the constitution of man's outlook and the greatest power for social and political action.

As science, using the word in the sense now generally understood, is kept apart from politics, it has little influence upon the uses to which its power is applied, whether for good or evil. In general, this influence is not given effective attention in political and social philosophies; and the attitude towards it to-day is much the same as that of Plato towards the results of observational and practical inquiry represented by the Ionian school, upon the principles of which physical science may be said to be founded. In Platonic politics, the State decided what was good for the peoples to know and accept, and the purpose of legislation was to ensure the stability of a society of rulers and slaves. The spirit of political Platonism still prevails, even though modern science and technology have placed a score of mechanical slaves at the disposal of every citizen in a modern State.

In the understanding of this increased power, and in action based upon it, political leaders can scarcely be said to take adequate account of the changing conditions of life due to applications of new scientific knowledge, either in the present or for the future. They are in charge of the forces of science, and upon them is the responsibility of seeing that these are used effectively for the progressive welfare of the community. In this relation to politics, the functions of science may be compared with those of an intelligence department which possesses knowledge of the equipment available everywhere for social or political development, but has no influence upon action derivable from it.

In a democratic State, the uses made of science, like those provided for defence or attack on land, sea and air, are decided by leaders elected by representatives of the people. If these representatives rarely include men distinguished for their contributions to useful knowledge, it is because such original investigators find the air of the research laboratory more congenial and productive than the turbulently atmosphere of politics. In the discussion of any subject, the value of the views expressed depends upon the first-hand knowledge possessed of it. This is as true of politics as it is of science, though in

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these two fields rhetoric and fact differ in their influence.

As the forces of science are in action along the whole front of advancing civilization, it is essential that their strength and disposition should be given full consideration in all social and political campaigns. Their leaders have a right, and a responsibility to their colleagues as well as to other fellow-citizens, to share in the preparation of schemes of operation in which their forces are used. When they enter the field of politics, they possess at least as much general knowledge of the problems involved as is required of representatives of other interests, whether industrial, commercial and financial, or of the armed forces. Their views can have no special authority outside the scientific field to which they have devoted particular attention; but they may justly claim to have been trained to face facts before arriving at judgments, and the value of their public service depends upon their competence to transfer this faculty to the consideration of social and political problems.

One reason why few men of science care to take an active part in politics, is that they do not feel able to effect such a transfer of their trained habits of thought. Birth, social surroundings, and feeling largely determine the side taken in national politics, but all these have little to do with the making of scientific students and discoverers. It is only by applying to political problems the principles of independent inquiry and impartial judgment demanded of investigators in all branches of natural knowledge, that politics can become a science and scientific workers as such can contribute to its advancement. Without this spirit and purpose science and politics are best placed in separate categories.

There is, however, a vast difference between party politics of a national kind and international politics in which the world is the unit and all men are citizens of it, having rights and duties to be wisely adjusted with the object of ensuring progressive development everywhere. This is the field into which the international spirit of science can enter without being regarded as an intruder or becoming involved in controversial national politics. The world is the possession of man, and his endeavour should be to see that its resources, with the powers provided by science, are used for effective development. National boundaries have little relationship to the distribution of natural resources, and less to the needs of modern life. All communities can share in the achievements of scientific discovery and invention, and none can establish an exclusive right to the use of them. Radio communication and aviation have made it impossible for any one nation, or group of nations, to isolate itself from the others, whether near or far. There will be no need for any civilized community to strive for self-sufficiency in a single region, or within a political sphere of influence, when these world powers become agents of international politics. The way may be far to go before national interests will acquire an international outlook, yet the tendency of political groups to become larger gives promise of further expansion into a commonwealth of the chief free peoples of the world.

Such a commonwealth can be secured only by consent, and in it there will be no place for the mastery by force of one race or nation over another. No new world order can have stability unless each nation is free to follow its own lines of cultural development, and does not seek to deprive others of the same liberty. There can be patriotism without

arrogance and unity without aggressive imperialism. What is wanted now is not pride of power to make one nation submit to the will of another, and the exercise of it to secure mastery of the world, but pride in a union upon the strength and structure of which each nation depends for freedom and security.

It is only with such a co-operative alliance in mind that the services of science can be used to shape the course of international politics. Knowledge of natural objects and phenomena—their properties, occurrence and range—is not confined to political regions, either in extent or in the use of it. This knowledge is free to the world, and is the foundation upon which the structure of modern civilization is based. It is continually revealing new sources of supply of materials, and power to expand this structure as well as to adorn it. Applied science has provided the means of making the world's abundance available to all peoples. The world is, indeed, self-sufficient to supply the needs of all mankind, and the aim of international politics should be to see that the supply is adjusted according to the need for the use of it.

In the fourth clause of the Atlantic Charter, Mr. Roosevelt and Mr. Churchill expressed the intention of the United States and the British Commonwealth to adopt this principle in a unified political policy. The clause declares that "they will endeavour, with due respect for their existing obligations, to further enjoyment by all States, great or small, victor or vanquished, of access, on equal terms, to the trade and to the raw materials of the world which are needed for their economic prosperity."

This Anglo-American declaration, with the power of two great democracies to implement it, gives an impressive outlook to a new world order. No federation of European States alone could make such a declaration of the effective value represented by the unification of purpose of the British and American Commonwealths. When the principle of freedom of access to the raw materials of the world is conceded by the chief nations of the world, the problems of international politics will be greatly simplified and science will become the chief factor in their solution.

What exists in the world, and what uses can be made of it, are discovered by scientific inquiry and its application. What action is taken upon the knowledge or power thus gained depends upon communities and their governments. Knowledge of natural forces and resources gives no control over them but only an understanding of cause and effect available for human service. Science as such is concerned with the advancement of natural knowledge, and its standards of value are neither ethical nor political. Men of science, therefore, make no special claim to express opinions upon political matters, except in so far as their pursuits affect the welfare of the community, and its repercussions with them. When, however, they give close attention to subjects outside the particular fields they have made their own, their reactions are at least as worthy of consideration as those of other enfranchised citizens.

The view that the sole function of men of science is to study and discover natural facts and principles without regard to the social implications of the knowledge gained can no longer be maintained. It is now widely acknowledged that science cannot be divorced from ethics or rightly absolve itself from the human responsibilities in the use of its powers in economic or political planning. Men of science neglect their duty if they continue to retain the monastical habits which society commonly assigns to them, and are

content to remain isolated from the structure of civilization built up from materials provided by them. It is their obligation as citizens to assist in the establishment of a rational and harmonious social order out of the welter of human conflict into which the world has been thrown because the powers they have released have not been rightly used in the services of mankind as a whole.

To suggest that the world is a single unit in which all men have certain fundamental rights to live and work, each according to his capacity and needs, may not be practical politics—national or international—yet these are the basic factors in the world's equation. Science and ethics should be able to agree as to the rights of all men to a place on this earth of ours and their duties to the community. Until international politics mean something more than a survey of national claims and actions, with no scientific or ethical principles upon which to arbitrate, expediency and not equity must continue to determine its judgments.

Before any worthy world order can be established, the fundamental rights of men and communities must be defined and acknowledged by the democracies which promote it. The Anglo-American Charter represents the beginning of the infusion of this spirit into the working of world affairs. The outlook of international politics is vastly extended by this Charter, and an instrument has been constructed which gives new meanings to the dimensions of time and space on a changing world. It recognizes by implication that the goal of a world commonwealth can be brought into sight and gives hope that the promise of a dream is not beyond fulfilment.

It was in this spirit that a Declaration of the Rights of Man was drafted a year ago by a committee under the chairmanship of Lord Sankey and submitted to public discussion. The opening paragraphs of the introduction to the Declaration may be appropriately reproduced here because they state world conditions differing from those with which international politics have hitherto had to deal. The paragraphs read as follows:

"Within the space of little more than a hundred years there has been a complete revolution in the material conditions of human life. Invention and discovery have so changed the pace and nature of communications round and about the earth that the distances which formerly kept the States and nations of mankind apart have now been practically abolished. At the same time there has been so gigantic an increase of mechanical power, and such a release of human energy, that men's ability either to co-operate with or to injure and oppress one another, and to consume, develop or waste the bounty of Nature has been exaggerated beyond all comparison with former times. This process of change has mounted swiftly and steadily in the past third of a century, and is now approaching a climax.

"It becomes imperative to adjust man's life and institutions to the increasing dangers and opportunities of these new circumstances. He is being forced to organize co-operation among the medley of separate sovereign States which has hitherto served his political ends. At the same time, he finds it necessary to rescue his economic life from devastation by the immensely enhanced growth of profit-seeking business and finance. Political, economic and social collectivisation is being forced upon him. He responds to these new conditions blindly and with a great wastage of happiness and well-being."

The object of the Declaration was to assemble and proclaim fundamental and inalienable rights of man as a species living upon the planet Earth, and with powers of conquest over agencies—natural or social—which obstruct his advancement. Science and the humanities can meet on common ground in an endeavour to make a charter of this kind represent elements which enter into human reactions and should be regarded almost as commandments for the guidance of international policies. When agreement has been reached upon the essential human needs and rights declared in such a charter, a very promising nucleus will have been created upon which scientific and ethical principles can crystallize. Without a foundation of this kind, conciliation of conflicting interests and political expediency will determine the influence and actions of leagues, unions, councils and courts, and there will be no fixed star by which to shape the courses of ships in the stormy seas of international politics.

Since the outbreak of the conflict in which all peoples of the world are now directly or indirectly involved, many declarations have been made of principles expressing the needs and aims of all men. They all have much in common, and from them it should be possible to construct fixed standards in which the rights of nations are given world values and the welfare of the whole community of mankind is the concern of international politics. However far distant we may be from the effective application of such basic principles, conditions of life to-day demand the formulation, by common consent, of a charter in which all communities will have world rights, relationships and responsibilities. There can be no unified political, economic and social order unless schemes of reconstruction are conceived in this spirit, with full knowledge of the primitive instincts of man and the lag between them and the powers which science have given him.

The three chief principles of inter-State intercourse, on which international law is based, are said with authority to be:

- (1) Recognition of each other's existence and integrity as States.
- (2) Recognition of each other's independence.
- (3) Recognition of equality, one with another, of all independent States.

International law may narrate these principles, but international politics have made a mockery of them. A bewildered world finds itself deprived of all these 'recognitions', and seeks new fundamental truths to satisfy its outlook. The so-called laws of Nature are only generalizations which have to be revised when cases not covered by them are brought before the court of science. International politics has to adopt a similar attitude towards the evidence presented to it, and international statutes should not be limited to the relationships of one sovereign State to another, but of every State to all others.

In the realm of the humanities, as in that of the natural sciences, the closer the approach of a principle to fundamental truth, the longer will it survive. All peoples of the world have certain attributes in common, and all high religions teach the observance of certain ethical principles. When these principles have been analysed and collated, a sound basis will be secured for the constitution and judgments of a court of international politics, and the goal of world unity will come into view. Science can usefully combine with politics to attain this end.