

*Dr. Wendt, formerly Science Editor of Time, wrote the atomic energy number of the UNESCO Courier.*

## THE COMING ATOMIC ERA Geneva—and Then?

By GERALD WENDT

**T**HE United Nations Conference on the Peaceful Uses of Atomic Energy, which will meet at Geneva early in August, will be of rare significance for several reasons.

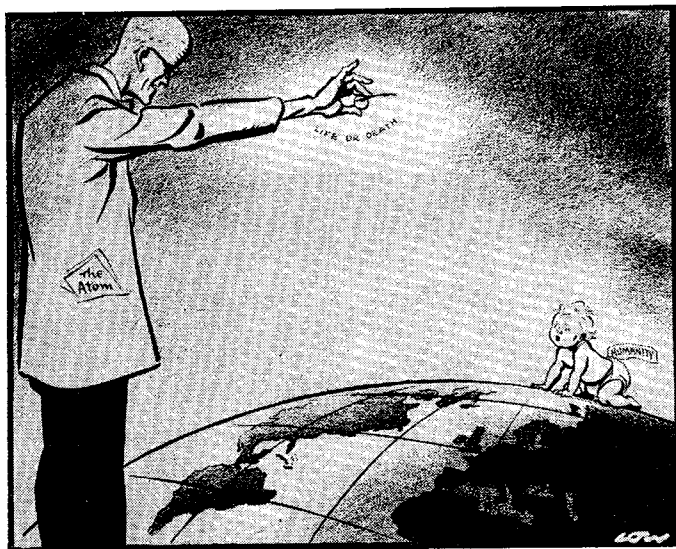
Firstly, it will open the second period of the atomic age, in which the beneficent uses of nuclear energy will replace its horrendous destructive power in the eyes of the peoples and the plans of governments. Secondly, it will be the first time in history that an impending revolution in the world's economy and the living conditions of many nations has been faced constructively and in advance by a world congress. Thirdly, such an approach to a new

world problem is possible today only because of the mutual habits of co-operation which have developed during the decade of the United Nations' existence.

### *Experts, not politicians*

It will not be a political conference among the few great powers which have developed atomic weapons; and no binding action will be taken. Instead it is to be a searching scientific enquiry by experts from member states of the UN and the Specialised Agencies, fifty-one of whom had accepted the invitation to attend by early May.

Further, the conference is itself preliminary to the organisation of a permanent United Nations Atomic Energy Agency that will presumably administer the future programme of international co-operation. Such an agency was first mentioned to the General Assembly in December 1953 by President Eisenhower who proposed that "the governments principally involved", including specifically the Soviet Union, make joint contributions of fissionable materials to "an international atomic energy agency", set up under the aegis of the United Nations in order to "apply atomic energy to the needs of agriculture, medicine and other peaceful activities".



*"Baby play with nice ball?" How Low saw it three days after Hiroshima. (Reproduced by kind permission of the artist and London Express News and Feature Services.)*

The General Assembly voted unanimously to endorse the entire proposal and suggested that "once the agency is established, it negotiate an appropriate form of agreement with the United Nations similar to those of the Specialised Agencies". There the matter still stands, though bilateral discussions are now going on among a number of interested nations to explore the practical bases of international action. Meanwhile the United Nations itself is sponsoring the Geneva Conference.

### ***Enthusiastic response***

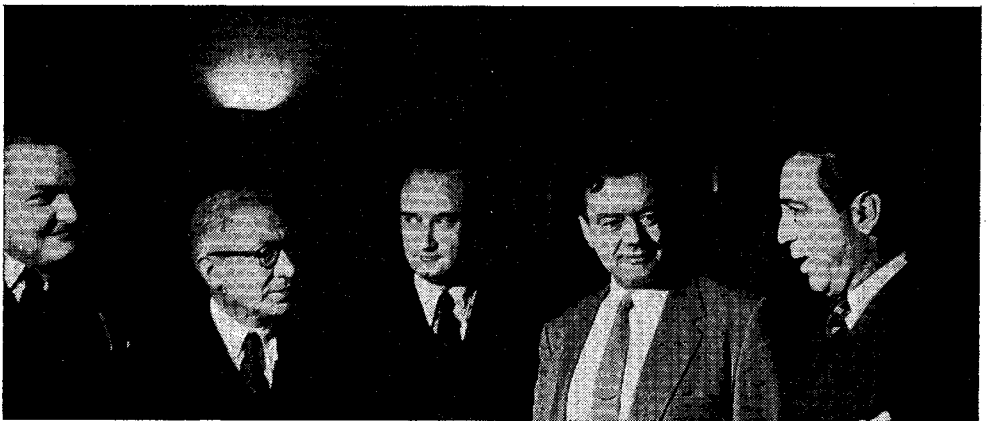
The response of the scientific world to the invitations has been enthusiastic—almost incredibly so. Each nation has called for contributions from its scientists and is selecting the most significant for presentation. By the middle of May the United States alone had received more than a thousand and had pared this number to 524. Great Britain had submitted 94, France 62, Canada 13 and the Soviet Union 94. Thus, the total number of contributions to be read at Geneva may exceed a thousand. The scale of the Russian publications is unprecedented.

The conference agenda includes seven three-hour plenary sessions devoted to world power requirements during the next half-century, the "maximum plausible role" of nuclear power

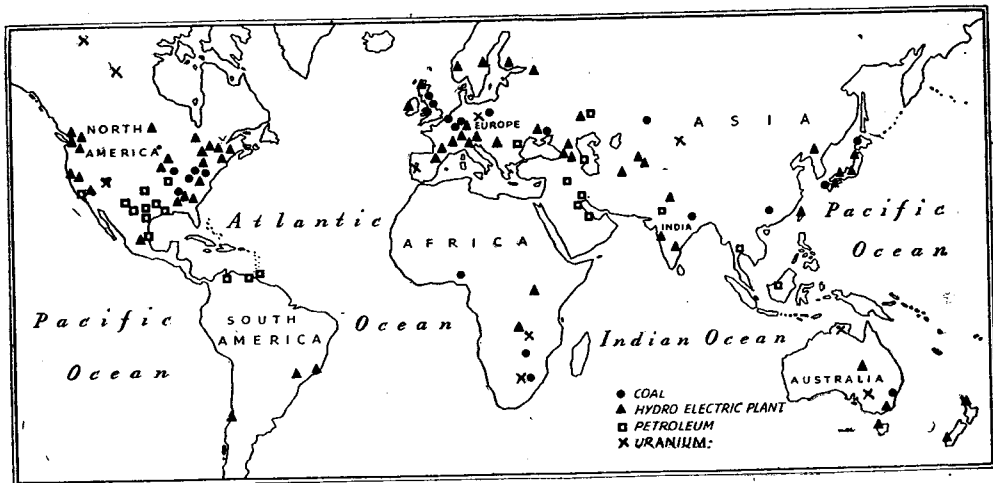
and the economics of its use, the investment and equipment required, the health and safety factors in reactor operation, the production and use of isotopes, and problems in the handling of large quantities of radioactive substances.

In addition there will be eight three-hour sessions on the design and operation of various types of nuclear reactors, eight sessions on such technical matters as prospecting for uranium and thorium, the refining of the metals and of other special materials, the storage and separation of fission products and the disposal of wastes. There will also be a large number of specialised sessions in the physics, chemistry and metallurgy of reactor operation; in biology, medicine, genetics, public health and agriculture; and on the use of radioactive isotopes in the solution of industrial problems. A final plenary session will discuss the assistance by nations present to other countries in the use of atomic energy and the technical education and training of personnel.

Obviously it is to be a conference of scientists speaking to each other. It will do much to destroy the wall of secrecy surrounding atomic information and to begin the international distribution of knowledge that at present is confined to small technical groups in a few



**Members of the conference advisory committee. Left, Dr. J. V. Dunworth (Britain). Right, Dr. Homi Bhabha (India) who will be the conference's chairman.**



Major sources of the world's energy.

separate countries. It will certainly stimulate in each country a group of well-informed specialists who will be able to advise their governments on the realities of using atomic power and of applying atomic materials in agricultural, medical and industrial research. It should reveal the degree of readiness of the various nations for the atomic age.

But what impends is more than a paradise for scientists. Sir Winston Churchill has called this a "turning point in our destiny"—the destiny of mankind. The power to be generated is not merely electrical; it is economic and social power. The stream of electrons that will gush from every atomic reactor will become the life-blood of starved and emaciated peoples, will water the deserts, will turn buried resources into wealth, will in many lands compress a millennium of progress into a few decades. It will revolutionise living just as completely as the atomic bomb revolutionised killing. Of all this vast prospect there is little mention in the agenda. The conference will be one of tactics in the production of power, not of strategy in its use.

Since it is but the first step toward the new age this is probably inevitable. Yet the power for peaceful uses will be released just as inevitably as was the bomb, and, as things now stand, the world will be equally unprepared

for the consequences. What, then, should the next steps be?

After Geneva, equally broad and competent discussions will be needed of the impact of atomic energy on such human affairs as education, economics and international relations. The development of atomic power in significant amounts will at best be a matter of some years. But there is little time to be lost in facing the educational needs. Even in the most highly industrialised lands there is a dearth of trained nuclear scientists and engineers to build and operate the new installations; and their training requires many years. In other countries, where industrialisation is proceeding rapidly, the atomic reactors could perhaps be manned from abroad but the vital need is for electrical, civil, and mechanical engineers and for teachers and technical schools so that power transmission lines can be erected, motors built and installed, factories set up, transportation and communications provided. The industrial and electrical revolution must precede the atomic.

### ***Magical modernisation***

The greatest demand for atomic power comes, however, from nations whose industrial potential is still low, whose power resources

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## The Coming Atomic Era

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are either undeveloped or lacking, and whose life is essentially agricultural. To them atomic power seems to offer hope of almost magical modernisation. Yet it is a vain hope unless it is preceded by a reform and a great growth in education that would be almost equally magical. Here the immediate need is for skilled workmen who understand the laws of mechanics and can handle modern tools, for electricians and metal workers, for men who will go on from vocational training to more technical education. Scientific thought must be accepted in local cultures, and science must be included in elementary-school instruction and must be well taught in teacher-training institutions. It is a long sequence, requiring decades to penetrate a million villages, but it will be common to many countries and so deserves international planning and the best efforts of the educational agency of the United Nations, UNESCO.

So, too, the medical and agricultural uses of radioactive materials should be made widely known by the World Health Organisation and

the Food and Agricultural Organisation. The far-reaching changes that will ensue in national economies, in urbanisation, in the demand for labour, in international trade and finance, indeed in every aspect of the common life of human beings everywhere—all these should be examined in advance with the same care and on the same international scale as the scientific and technical factors will be at Geneva. The consumer of the new power is quite as interested as is its producer and should be equally well informed.

Time and again science has released tremendous new social forces on an unsuspecting world and has conferred on us both great benefits and disasters. But in truth the disasters have most often come from the blind acceptance of the gifts without foreseeing their consequences. So it has been with atomic energy, up to now. In August the Geneva conference will flaunt the new promise and the threat for all to see. The challenge will be plainly stated but the answer cannot possibly come from the assembled scientists. Science will make a long move forward. It will not be easy to match its pace.

Some of the delegates to the New York *Herald Tribune's* World Youth Forum, who discussed international problems before an audience of 3,000 children in London's Festival Hall in March.

The meeting was arranged by the Council for Education in World Citizenship and *The Observer*.

