

Reminiscences by Dr. I.I. Rabi

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AN ORIGINAL MEMBER OF THE SCIENTIFIC
ADVISORY COMMITTEES BOTH OF THE
UNITED NATIONS AND THE IAEA, DELIVERED THE
FOLLOWING ADDRESS AT THE SALAZAR
ATOMIC CENTRE, MEXICO, IN OCTOBER 1972.

HE SPOKE ON "REMINISCENCES FROM
SCIENTIFIC ADVISORY SERVICES TO GOVERNMENTS
AND INTERNATIONAL ORGANIZATIONS".

The International Atomic Energy Agency grew out of a great promise and perhaps an even greater fear which concerned all the nations of this earth. The promise was for continuation and growth of our industrial society which makes such an enormous demand for ever increasing services of energy.

The example of the fate of Hiroshima and Nagasaki at the same time left a pall of fear over all mankind which dreaded an equal and even worse fate unless this evil of nuclear warfare was eliminated.

President Eisenhower in an epoch-making address before the Assembly of the United Nations in 1953 put forth the interesting proposal for an organization to be formed to which the nuclear powers would contribute fissionable materials, uranium and thorium, to diminish the stockpile available for weapons and increase the stockpile available for peaceful or civilian uses. This proposal received very favorable attention in the world press perhaps more for its sentiment than for its practicability. After a short time this important initiative became moribund for lack of follow up by the press.

After various discussions of how to revive the whole idea, I had the opportunity, because of my chairmanship of the General Advisory Committee to the United States Atomic Commission, to suggest that if we held a conference, an international conference under the auspices of the United Nations devoted to the problems, scientific and technical, of the peaceful uses of atomic energy, President Eisenhower's original idea, would be revived and perhaps fulfilled and executed. It would also be a test of the sincerity of national protestations that their main desires were peaceful, dedicated to the alleviation of the human condition and to the extension of the great discoveries in atomic energy and atomic science to the benefit of mankind.

After a great effort of persuasion this conference idea received remarkably rapid acceptance by the Secretary General of the United Nations, Dag Hammarskjöld, and the General Assembly of the United Nations. A small Advisory Group was formed to advise the Secretary General on the arrangements and content of this conference. The group was kept small and the members were chosen to be representative both of the continents of the globe and the state of advancement, both in scientific capacity and more particularly in the possession of reserves of fissionable material.

Among the first members, apart from myself, of this Science Advisory Committee were Dr. Bertrand Goldschmidt for France, Academician Skobel'tzyn of the USSR, Dr. Lewis for Canada, Sir John Cockcroft for the U.K. and Dr. Homi Bhabha of India, who added their vast prestige and influence to the success of this committee. The chairman of this committee, since it was advisory to the Secretary General, was Dag Hammarskjöld himself. In organizing this conference, through the committee, I first learned the peculiar difficulties in international organizations. Our aim was to make the conference strictly scientific and technical and to avoid insofar as possible all political propaganda. This turned out to be far from simple in those days when the Cold War was in its prime. It is very hard to believe that it took eight days of difficult negotiations to draw up 22 simple rules of procedure to achieve the aim of avoiding all political propaganda. It took only three days to provide the actual agenda of something like 60 sessions, and each agenda item contained many sub-headings of scientific importance. I now feel that my general naiveté was my greatest asset.

History has shown that this conference was a monumental success. For the first time scientists of the socialist countries met with scientists of other countries in large numbers under the most friendly auspices.

This first Conference on the Peaceful Uses of Atomic Energy which took place in the early fall of 1955 was deemed by Dag Hammarskjöld to have been the most important diplomatic event of the decade of the 1950's. Certainly it is hard to conceive that the International Atomic Agency could have been established without this Conference, which in a sense broke the barriers which had prevented friendly intercourse about atomic and other scientific subjects between the socialist countries and the Western World.

A most important side effect of the conference was the release of vast amounts of information regarding reactor science and technology and other important subjects. This forced and massive declassification made possible exchange of information both national and international in the various countries. The ice was broken and the way was open for the establishment of the IAEA.

When the Atomic Energy Agency was established it seemed desirable to set up an Advisory Committee on the model of the United Nations Advisory Committee. To avoid the possibility of conflict between the two agencies, it was the genial idea of Dr. Goldschmidt that the personnel of the two Advisory Committees be identical and they remained so until recent years. Indeed no conflict has occurred between the UN and IAEA in the whole time of its existence.

The universal nature of science and the character of the scientific community which shares this universality made it possible to have close and fruitful relations between scientists of different cultures and even of countries of seemingly antagonistic political orientations.

Our committee became like a club where the members learned to respect and trust one another. Our trust was never misplaced or betrayed. As a result the committee could do its work with the utmost expedition and objectivity to the astonishment of expensive and sophisticated diplomats.

An illustration of the flexibility of the committee as an instrument of the Secretary General of the UN and of the General Assembly was its initiative in setting up the UN Conference on the Applications of Science for the Benefit of Less Developed Countries, UNCAST. Using the format which was so successful for the Conferences on the Peaceful Uses of Atomic Energy, we found no difficulty in recruiting a subcommittee of scientists eminent in medicine, agriculture, mineral resources, education, anthropology, economics, transportation, communications, water resources, indeed all the diverse elements needed for



Stainless steel sculpture — the main flange for a Westinghouse nuclear coolant pump gleams like a piece of industrial pop art as it undergoes inspection. The flange, weighing 14,500 pounds, was carved from a single piece of stainless steel and machined to tolerances as low as two-thousandths of an inch . . . Westinghouse

the purpose. The documents produced for and by this Conference are still a great resource of information. Unfortunately this example of the utilization of the mechanism of the UNSAC has not been followed by succeeding Secretary Generals of that body.

Under the beneficent leadership of Dr. Eklund and supported by his Science Advisory Committee and the Board of Governors, the Agency has assumed the role of Science Advisor to member states. The concept of atomic energy is being expanded to the more general problem of energy for an expanding society of developed and less developed nations.

The problems of atomic pollutants of land, sea, rivers, lakes and air are not extremely different from industrial waste in general. Problems of water supply for atomic industry bear on the needs for water in general agricultural and domestic use. For the future I visualize an expanding role for the Agency as a global Science Advisor to all nations.

Through its program of conferences and panels this role can be made more effective and efficient in bringing scientists from developed and developing countries together in an atmosphere of good will and amity.

I will now indulge myself in a few reminiscences, which bear on the points I have tried to make.

In 1957 I had the honor of being Chairman of the President's Science Advisory Committee. The power and influence of such a body depends on two basic elements; one on the eminence and quality of the members of such a Committee — the second is the interest of the person to be advised. In this case it was President Eisenhower, a man of extraordinary wisdom and breadth of interest. The year of 1957 will go down in the history of science and technology as the year of Sputnik, the first satellite, a great triumph of Soviet science. The impression in the United States is hardly to be described. The Soviet success was certainly inspiring — but disappointment that we missed being first, raised many questions about the effectiveness of American science and technology and American education in general, especially in the sciences. The President shared these concerns, naturally. The Committee was asked in by the President to advise "what to do."

The results were quite dramatic. The Committee was moved to offices in the White House, a special full-time Science Advisor to the President was appointed and given full access to all information in all departments. Science research activities in universities and industry were given new funds. The schools received more support, and greater support was made available to students in the schools. Public interest in science was greatly increased.

The results of this Soviet achievement could not have been better for the United States and for the world, We now have the wonderful satellite communications, weather satellites, survey satellites for geographical resources for mining and for crops, radio satellite astronomy for dramatic explorations of the moon of manned and unmanned satellites. The total effect was so great and profound that, a few years ago when I was asked to give a talk at a great laboratory, I gave as the title, "What Have The Russians Done for Us Lately?" "Everyone understood what I meant. We in the U.S. needed another dose of friendly competition to stimulate public and general interest.

In conclusion I would like to emphasize the need, in a world which is becoming more and more nationalistic and divisive, of scientists of wisdom and vision — men with the authority of knowledge and merit who can point out that we live, after all, on a globe of limited area, of limited resources of land, sea and air.

No country can indulge in unwise practices in its own territory to its own harm without harming others, whether by pollution of land, sea and air, wastage of irreplaceable natural resources, uncontrolled disease or otherwise.

History tells us that human institutions are ephemeral. Governments and nation states rise and fall, but humanity must go on. Today and in the future we must use the powers that science has given us over nature with wisdom and universal concern. If we fail we lose the long battle of humanity to rise above brutish existence to a level where we begin to understand nature, and to lesser degree our own selves. Knowledge without wisdom can be a curse to the equal degree that knowledge with wisdom is a blessing.

We now have the opportunity through satellite communication to speak to the whole world at once, demonstrating the need for a universal second language. In science we have at the least the elements of a universal culture which respects the ability of mankind to explore and understand the world in which we live and the nature and perhaps the meaning of life itself.

The IAEA is a most hopeful example how, with wisdom and knowledge, the peoples of the earth can be helpful one to the other.