

# WHEN THE ATOMIC AGE BEGAN

2 December 1942, just twenty-five years ago, is the date most often proclaimed as marking the beginning of the atomic age. On that day Enrico Fermi's atomic "pile" went critical — man had achieved the first self-sustained nuclear chain reaction and controlled it.

This achievement is an outstanding example of how modern science can work. It had been predicted in theory, calculated in advance and finally realised through the work of large teams of scientists, headed by some of the most imaginative personalities of our century.

The military aspects of man-made nuclear chain reaction still dominate our world today. However, within this quarter of a century, nuclear energy has also become significant as a source of power for peaceful purposes. By the end of another quarter of a century it will, according to the best forecasts we can make today, produce a major part of the electricity in the world.

The control of nuclear fission was initiated by Fermi and his collaborators. It had a tremendous impact on politics, on concepts of warfare and finally on scientific progress for man's welfare. Fifteen years afterwards the International Atomic Energy Agency was created to promote the peaceful uses of the new technology and to assist in winning the advantages it offered for improving health and prosperity. Another of its great objects is to ensure, as far as possible, that nuclear materials intended for peaceful purposes shall not be diverted to military ends. The hope of the world must be that this, one day, will include all nuclear materials.

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Examples of the progress which has been made, and may be anticipated, in applications of atomic energy to beneficial purposes were given by three distinguished scientists during a scientific afternoon arranged during the eleventh session of the General Conference. Dr. Alvin M. Weinberg, USA, spoke of "The Coming Age of Nuclear Energy", Academician Lev A. Artsimovich, USSR, dealt with "The Present Status of Controlled Nuclear Fusion Research", and Dr. K.F. MacQueen, Canada, gave an outline of "Food Irradiation and its Future Prospects." Though necessarily condensed, the versions of their addresses given in this issue indicate the way in which research is accelerating. Dr. Vikram A. Sarabhai, Chairman of the Atomic Energy Commission of India, was Moderator for the meeting.