Statement," most of which is quoted here.

"The international problems which have arisen as a result of the development of atomic energy are of two kinds, technical and political. A gathering of men of science can discuss with special competence only the scientific and technical implications of atomic energy. Such discussion, however, can be fruitful only if it takes into account the political problems which are the background to international negotiations. The signatories of the Russell-Einstein appeal affirmed their intention to say nothing which might seem to favor one rather than the other of the two great groups of powers into which the world is divided. In attempting to formulate the conclusions which followed from our discussions, we too have tried to avoid any exacerbation of the differences between nations which might follow, for example, from emphasis on technical considerations unwelcome to one or other of the two great powers. . . .

"The main work of the meeting was centered round three principal topics: (1) The hazards arising from the use of atomic energy in peace and war; (2) problems of the control of nuclear weapons; and (3) the social responsibility of scientists. Three committees were established to give detailed consideration to these topics. Their reports to the conference are given in the statements appended to this document, but the principal conclusions bearing on the hazards of atomic energy may be briefly summarized as follows:

"Committee I on nuclear hazards, made an independent assessment of the effects of the nuclear tests carried out hitherto. From the details given in the appendix, it may be seen that the hazard, compared with others to which mankind is subject from natural causes, is small. Nevertheless, because of the world-wide distribution of fission products, and the fact that some areas may be subject to effects much above the average, close attention to the dangers should be maintained, especially if tests of bombs which give large radioactive fall-out continue to be made.

"The committee also considered the hazards arising from the peacetime use of industrial atomic power, or the application of radiations in medicine and industry. Although these hazards must be viewed in the light of the great benefits which will flow from such applications, means of greatly reducing the attendant hazards are available and should be widely adopted.

"The above mentioned estimates of the hazards which have arisen from test explosions, permitted a closer examination to be made of the probable consequences of an unrestricted nuclear war. This examination led to the unquestioned conclusion that a general war with nuclear weapons would indeed represent a disaster of unprecedented magnitude. . . .

"It is against the background of the fearful consequences for humanity of a general war with nuclear weapons that the conclusions of Committee II, which considered problems of control, must be viewed. The principal objective of all nations must be the abolition of war. . . .

"For this purpose it is necessary to reduce tension among the nations; to promote mutual understanding among the people; to strive for the ending of the arms race; and to provide an adequate control system so as to give substantial protection, and permit the development of mutual confidence.

"One of the greatest difficulties in international affairs in recent years has sprung from the fact that in a period of delicate strategic balance, even secondary questions acquire strategic significance; in such a situation, they are rarely subject to agreed solutions because any particular solution appears to be to strategic advantage of one rather than another of the powers. We believe that it is unrealistic to depend upon any sudden increase in mutual confidence and that it is more likely to grow from small beginnings. In this situation, even small agreements covering limited fields could be of great importance. . . .

"The conclusions of Committee III on the responsibilities of scientists state our common conviction that we should do all in our power to prevent war and to assist in establishing a permanent and universal peace. This we can do by contributing to the task of public enlightenment concerning the great dilemma of our times; and by serving to the full extent of our opportunities, in the formation of national policies. The Committee gives a statement of beliefs and aspirations suitable for scientists in the modern world.

"Finally, we should like to give expression to the high degree of unanimity we have found among all the members of the Conference on *fundamental aims*. We are all convinced that mankind must abolish war or suffer catastrophe; that the dilemma of opposing power groups and the arms race must be broken; and that the establishment of lasting peace will mark the opening of a new and triumphant epoch for the whole of mankind. We earnestly hope that our conference may make a modest contribution to these great aims."

Underground Nuclear Test

The Nevada Test Organization, of the Atomic Energy Commission and Department of Defense, recently announced that a relatively low yield nuclear device will be detonated underground at the Nevada Test Site in early September. The device will be placed at the end of a multidirectional 2000-foot tunnel into the side of a small mountain near the northwest corner of Nevada Test Site. The detonation chamber is approximately 800 feet below ground surface, a depth sufficient to contain all radioactive material, thus eliminating any airborne radiation and any fallout problem. The experiment is intended to prove this new method of testing as well as to test new instrumentation systems that are necessary.

It has been anticipated that the test will be of interest to seismologists and geophysicists. Information will be released later in the summer to alert seismic stations, not only in the United States, but also in other countries, regarding the date, approximate time, and more precise location.

The general approach to this method of nuclear testing was suggested by Edward Teller of the University of California Radiation Laboratory, in association with David Griggs of the University of California, Los Angeles. Calculations of required depth of burial to contain the detonation were confirmed by high-explosive detonations at Nevada Test Site. These initial tests, one of them involving 50 tons of high explosives, were conducted by the U.S. Geological Survey.

Educational TV and Science

The Educational Television and Radio Center, Ann Arbor, Mich., which provides a national film program service for the 23 noncommercial educational television stations affiliated with it, is developing a number of programs in science. The center supplies its stations with 15 programs per week. Some of those that are in production follow. While these programs are developed primarily for use over the noncommercial educational television stations, they will be made available for 16-mm projection in classrooms through the center's N.E.T. Film Service, Audio Visual Center, University of Indiana, Bloomington, late in 1958.

"The Secret of Flight," a series of 13 programs, will deal with the basic problems of flight, explained by experiments and discussions. Purely scientific language is avoided. A smoke tunnel is used in conjunction with scale models and flying models. The series features Alexander M. Lippisch, designer of the delta-wing type of aircraft, and the aerodyne, a new concept in flight. Lippisch is director of the aeronautical research laboratory of Collins Radio Company in Cedar Rapids, Ia. The series is being produced by the State University of Iowa under contract with the center.

A noncommercial community station