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

in San Francisco, Calif., KQED, is producing a two-program series called "Tempest in a Test Tube," featuring Harry Sello, research chemist at the Shell Development Company. The purpose of the series is to awaken an interest in chemistry and the allied sciences on the part of the teen-ager—particularly the junior-high-school student. The format includes many lively and colorful experiments with an informal explanation of the principles involved. Continuity and experiments are developed by a committee from the American Chemical Society.

Medical problems affecting future space travel are explored in a series of 13 half-hour programs called "Doctors in Space," which is to be filmed in part at the U.S. Air Force School of Space Medicine, Randolph Air Force Base, Tex. The series will feature Hubertus Strughold, chief of the school, and will use film now available at the school as well as specially prepared shots. Station KUHT in Houston, center affiliate, is producing the series under contract with the center.

"The World and Physics" is a series of 13 45-minute programs that features Edward Teller, and five high-school science students. Designed to stimulate curiosity about and increase knowledge of science among high-school students, the series will cover fundamental concepts in the physical sciences and will emphasize ideas rather than demonstrations and experiments. Each program will begin with an elementary description of the subject and will gradually develop to a point when the ideas involved will challenge the imagination of the participating students and of the viewers. The series is another being produced for the center by station KQED.

A series of 13 half-hour programs, "Nuclear Energy—Key to Tomorrow," will explain the fundamental principles of atomic energy and outline its peacetime applications. Being produced under contract with the center and its affiliate, station WQED in Pittsburgh, the series will draw on the resources of the Westinghouse Atomic Research Division, the Carnegie Institute of Technology, the University of Pittsburgh, and the Atomic Energy Commission. Featured participants will be representatives of the Westinghouse Atomic Research Division.

"Of Science and Scientists," with Philippe Le Corbeiller of Harvard University acting as coordinator and host, is a series of programs organized by Harvard and produced by educational station WGBH-TV in Boston. The series will provide an introduction to the scope and methods of the physical sciences. It will illustrate how the scientist thinks and works and will tell what he can and cannot do. Each program will focus on a single idea and will involve experimental demonstrations and graphic illustrations from which discussion by one or more participants will develop. Some titles from the 23-program series are "Nature versus the Laboratory," "Science and Common Sense," "Are Scientists Dogmatic?," "Are Atoms Real?," and "Why Science Works." There are 23 programs in the series, each one-half hour in length.

Whitney Biological Fellowships

The Helen Hay Whitney Foundation, New York, has announced that fellowships are available to people in the United States or abroad, up to the age of 35, holding the degree of M.D., Ph.D., or equivalent, who are seriously considering a career in biological or medical research, preferably related to connective tissue and its diseases. Stipends will be arranged to meet the needs of the fellow. Applications, to be submitted *before 15 Sept.*, should be requested from the Executive Secretary, Helen Hay Whitney Foundation, 525 E. 68 St., New York 21, N.Y.

The foundation was established in 1947 to support research in rheumatic fever. Its activities have recently expanded to include the study of connective tissue and its diseases.

Philosophical Society Awards

The American Philosophical Society invites applications for grants in support of basic research, in accordance with the following general principles. Grants may be made for research in any field of scholarship and may include funds to cover travel and other expenses in connection with the collection of material for research. Grants are not made toward the payment of salaries of members of the staff of an educational or scientific institution, or for fellowships or scholarships, or for expenses in connection with the preparation of a doctoral dissertation. Support of a long-continuing project is not undertaken except in its initial stage. Applications should be typewritten on forms which may be obtained by addressing the Executive Officer, American Philosophical Society, 104 S. Fifth St., Philadelphia 6, Pa.

Corporate Giving and Public Health

Measured in dollars, the total effort of the American people to raise and maintain the national standard of health reaches the annual amount of $13 billion, according to the National Better Business Bureau, which has recently released a survey report entitled *Corporate Contributions to National Health Agencies*. The $13 billion covers a great variety of health activities—hospital care, research, preventive medicine, sanitation, food and drug regulation, and public information. However, the national health agencies, including the 26 which cooperated in the survey, deal with these problems selectively—that is, each one confines its interest to the field of a single disease.

The report showed a great diversification of reasons for giving to national health agencies, although nearly all national business firms are supporting them, both through direct contributions and through United Funds or Community Chests. It further showed that the number of national health agencies to which the average company contributes has doubled during the past 5 years. Among the reasons for contributing to national health agencies, 41 of the 158 corporations surveyed gave "effect of disease upon the economy."

Cardiovascular Disease Abstracts

Publication of the first issue of *Cardiovascular Diseases*, an abstract periodical, has been announced by the U.S. Public Health Service and the Excerpta Medica Foundation. For this purpose, a grant of $28,750 for the first year was made to the foundation by the National Heart Institute of the Public Health Service, on recommendation of the National Advisory Heart Council. Similar grants are contemplated for each of four additional years.

The publication's advisory board will have 40 members, nine from the United States. About 7000 abstracters throughout the world will contribute capsule versions of heart literature from approximately 1800 selected journals.

Metropolitan's Death Statistics

Diseases of the heart, arteries, and kidneys accounted for 57 percent of the $429 million paid out by the Metropolitan Life Insurance Company in death claims last year. Cancer ranked second as a cause of death-claim payments. Together, these causes of death accounted for more than $3 out of every $4 paid in claims to beneficiaries.

The company's 1956 death-claim payments were the highest ever, rising $33,348,000—or 8.4 percent—over the previous high total in 1955, and two and a half times the amount paid 20 years ago. The uninterrupted rise in death claims in a period of decreasing mortality, the company's statisticians point out, reflects both the growth in number of policyholders and the larger amount of life insurance owned per policyholder.

The rise in the proportion of disbursements for the degenerative diseases of