ergy Commission research project at the University of Rochester Medical Center, including William F. Neuman, have described President Eisenhower's defense of further H-bomb tests as "confused" and an "oversimplification" of facts on fallout. They stated that "The National Academy of Sciences' Report does not say that the levels likely to be reached, if bomb testing continues, are safe. . . . There is good reason to fear that they may not be safe" (*Washington Post,* 26 Oct.).

Shields Warren, former AEC medical research chief, supports continued tests, as do 12 well-known scientists whose names were released in a memorandum from the chairman of the AEC to the President.

On 24 Oct., the Federation of American Scientists, a nation-wide organization of more than 2100 scientists and engineers, reiterated its earlier support for an international agreement to a ban on tests of large-scale nuclear weapons. A statement was released by the FAS executive committee, which is made up of the following members: Charles C. Price, head of the chemistry department at the University of Pennsylvania; Martin Deutsch, physics professor at Massachusetts Institute of Technology; Harry Palevsky, physicist at Brookhaven National Laboratory; Mortimer M. Elkind, biophysicist for the National Institutes of Health; John T. Edsall, professor of biochemistry at Harvard University; Donald J. Hughes, senior physicist at Brookhaven National Laboratory; and Bruno H. Zimm, research chemist for the General Electric Research Laboratory.

On 26 Oct., 200 scientists endorsed the President's "leadership and program" in a statement that was released by Roger Adams, chairman of the science branch of the Committee of the Arts and Sciences for Eisenhower (*New York Times,* 27 Oct.).

On the following day, 22 scientists, including 18 at the Worcester Foundation for Experimental Biology, Shrewsbury, Mass., issued a statement declaring that the possible danger in hydrogen bomb tests was "a real problem which must be faced and should be discussed openly." The signers of the statement included two professors at Clark University and two members of the staff of the Worcester State Hospital (Associated Press, 27 Oct.).

Controlled Burning of Combustible Materials

The National Bureau of Standards has developed a simple, rapid method for burning combustible materials under closely controlled conditions. With this procedure and equipment, the gaseous products formed when organic materials are burned in air can readily be collected and analyzed. The results give a quantitative estimate of the combustion gases produced from such organic coatings as paints, asphalts, and plastic compounds. This information is useful in selecting organic coatings with particular thermal breakdown properties for use in buildings and other structures. The method was developed by A. Schriesheim, of the bureau's floor, roof, and wall coverings laboratories, working under the sponsorship of the Air Force.

The principal combustion products of organic materials are carbon monoxide, carbon dioxide, and water. When organic materials contain other elements in addition to carbon, hydrogen, and oxygen, combustion yields other gases as well. Among these are ammonia from wool, cyanogen from silk, sulfur compounds from rubber, and chlorine compounds from chlorinated plastics. To generate, collect, and analyze combustion products, earlier investigators burned large, built-up specimens, including actual rooms and buildings. Subsequently, laboratory procedures were developed to replace such costly and time-consuming processes, but these methods were slow and of doubtful accuracy. The bureau's recently developed method of burning organic materials provides a quick and comprehensive analysis of the gases as well as close control of the ratio between air volume and specimen weight at any initial firing temperature up to 550°C.

The bureau's equipment for burning organic materials consists essentially of a combustion chamber containing a heating element for firing the specimen, and apparatus to control the amount of air in the chamber. The combustion chamber, a 2-liter pyrex flask, can be tilted so that the specimen will slide down a silica tube inside the flask into the heating element.

In use, a porcelain boat containing the specimen is placed in the silica tube as far from the platinum heating coil as possible. After the combustion chamber is evacuated through the vacuum system, a controlled amount of air is admitted to the chamber. A constant ratio of specimen weight to amount of air is maintained by adjusting the specimen weight when combustion is initiated at higher temperatures.

Current is applied to the platinum coil until the desired firing temperature is reached. The combustion chamber is inclined, the boat containing the specimen slides down the silica tube into the hot platinum coil, and the material begins burning. After the temperature has been held constant for the appropriate time, the current is turned off and the apparatus cools to room temperature. The combustion gases are now available for analysis in a mass spectrometer.

In a series of investigations performed with this equipment, the results showed that for every material examined the greatest variety of gases was produced at the highest initial firing temperature (550°C). At this temperature, cracking and decomposition occurred and small molecular fragments such as methane and hydrogen were formed from many of the specimens. Chlorinated plastics liberated chlorinated compounds at the higher temperatures, while at the lowest firing temperature the only chlorinated material produced was hydrogen chloride. In every case the amount of hydrogen chloride increased with increasing temperature.

Several plywood assemblies, both painted and unpainted, and a polyvinyl chloride coating were fired in quantities sufficient to consume all the oxygen in the combustion chamber if they had been left to burn entirely to carbon dioxide and water. These materials produced the largest concentration of combustion gases, and caused the greatest decrease in the oxygen concentration. This low oxygen concentration is typical not only of the closed system used here but also of large, open, ventilated systems such as burning rooms and buildings.

Anterior Pituitary Hormones Available

The Endocrinology Study Section of the National Institutes of Health, Bethesda 14, Md., has announced a plan for supplying anterior pituitary hormones, other than ACTH, to qualified investigators in the medical sciences. Five of the NIH institutes are jointly providing the funds for the purchase or production of large uniform lots of the hormones, purified to meet exacting specifications, both for potency and for low limits of contamination with other activities.

The first lots of bovine growth hormone and of ovine prolactin have been approved by the study section and are ready for distribution. The growth hormone and prolactin are packaged as sterile, lyophilized powders in vials of 50 milligrams and 25 milligrams, respectively. Data on the estimated potency and degree of contamination and instructions for dissolving the materials will be issued with each package.

A pilot plant at Emory University is being set up under the direction of Stanley Ellis and Alfred E. Wilhelmi for the production of follicle-stimulating, luteinizing, and thyrotrophic hormones. These materials will not be ready for some months.

Details of the program are being looked after by a subcommittee of present and past members of the study section: Warren O. Nelson, Roy Hertz, Robert W. Bates, and Alfred E. Wil-

helmi (chairman). Gregory Pincus is chairman of the study section and Sam R. Hall is its executive secretary.

Grants of the hormones will be made to qualified investigators who apply to the study section. Application should be made in a letter that describes the proposed work and provides an estimate of the amount of hormones required. Requests will be granted to the extent that supplies allow.

It is hoped that by this service both clinical and fundamental studies on the anterior pituitary hormones will be stimulated. At the same time, it is thought that much advantage will be gained from the fact that a large number and variety of studies may be made by numerous investigators, all using the same highly purified and carefully tested preparations. Continuing support for the program will be sought if, as is thought by the study section, work in these fields has been limited by the availability of suitable materials.

New Planned Parenthood Research Committee

A biological research committee has been established by the Planned Parenthood Federation of America to lead a "concerted program" of research for improved methods of birth control and of infertility therapy. The committee, composed of 13 leading scientists in the fields of biology, physiology, biochemistry, medicine and population, is headed by Carl G. Hartman, formerly the director of Ortho Research Foundation in Raritan, N.J.

Establishment of the committee is an outgrowth of a conference on the physiology of reproduction sponsored jointly last spring by PPFA and the Population Council. At that conference it became clear, according to Hartman, that "despite tremendous gaps in our knowledge, there does exist a sufficient base of information to justify concerted efforts to solve the known problems in this field." He pointed out that increased knowledge of research in human reproduction would not only lead to better methods of contraception, but would also aid the 10 percent of American married couples who are involuntarily childless.

Relics of Ancient Culture in Japan

Hokkaido University has announced discovery of relics from the earliest culture yet found in Japan. The discoveries were made by an expedition from Hokkaido University and the Institute of Regional Exploration, Ann Arbor, Mich. T. P. Bank, American Fulbright scholar from Michigan, and Sakuzaemon Kokama of Hokkaido were coleaders.

The artifacts—mainly obsidian and stone blades, scrapers, and hand axes—were imbedded in a thick water-deposited terrace that is more than 10,000 years old. The terrace is located near the Sea of Okhotsk coast of Hokkaido, Japan's northernmost island. The expedition has discontinued work but will resume exploration next year.

U.N. Technical Assistance Pledges

As a result of the seventh Technical Assistance Pledging Conference held at United Nations Headquarters in October, a total of $30,295,000 will be made available by 65 governments toward the 1957 operations of the expanded program of technical assistance. This represents the largest sum yet provided for 1 year and exceeds by more than $2 million the funds pledged at last year's conference.

As in the past, several governments announced that they would make their pledges known at a later date; others assured the conference that their contributions would be at least at the level of their 1956 support, but might be increased in the next few months. The government of the United States announced a maximum contribution of $15.5 million of which $14 million would be paid to match the first $14 million of pledges from other governments; the balance of $1.5 million would be contributed at a reduced matching percentage to be announced later.

Three countries—Albania, Morocco, and the Sudan—made pledges to the Technical Assistance Fund for the first time, and Honduras renewed support that had lapsed in 1956. Nineteen other countries increased the amount of their pledges over 1956, accounting for an additional $750,000. Argentina, Bolivia, Finland, Greece, Hungary, Spain, Syria, and Switzerland all raised their contributions by 50 percent or more.

News Briefs

■ The Brooklyn Botanic Garden has obtained a 223-acre tract of woodland at Kitchawan, N.Y., adjacent to Croton Reservoir, which it will use as a field station for research. Gifts for the purchase and development of the station already have reached nearly $150,000. The garden is seeking to raise $250,000, which would include a partial endowment fund.

■ A 38-acre site in Oak Ridge, Tenn., has been sold to the Oak Ridge Institute of Nuclear Studies to provide space for six new permanent buildings. The new construction is expected to cost $3.5 million.

Scientists in the News

DICKINSON W. RICHARDS, JR., director of Columbia University's medical division at Bellevue Hospital, ANDRE F. COURNAND, professor of medicine at Columbia, and WERNER FORSSMANN, practicing physician of Bad Kreuznach in Western Germany, will share the 1956 Nobel prize for medicine and physiology, which this year amounts to $38,683.59. The recipients are being honored for their discoveries concerning heart catheterization and pathological changes in the circulatory system. The official citation reads: "[Their] investigations have meant that diagnosis can now be made earlier and with greater certainty than before. In this way, the prospects of preventing further deterioration are increased."

Behind the award is the story of a line of inquiry that began 27 years ago when Forssmann introduced a catheter tube into a vein of his right arm. Sitting behind a fluoroscope and watching a large mirror, he pushed the tube gradually into the right ventricle of his heart and then had x-ray pictures made. This ended the investigation for several years until a paper on his findings came to the attention of the two men at Columbia. They took up the research where Forssmann had left off.

ROBERT F. MEHL, director of the metals research laboratory and head of metallurgical engineering at Carnegie Institute of Technology, was presented with the Grand Medal of Le Chatalier by the council of the French Society of Metallurgy at its recent annual meetings in Paris, France.

I. S. RAVDIN, who holds the John Rhea Barton professorship of surgery at the University of Pennsylvania, was retired from service in the U.S. Army Reserve, Medical Corps, in ceremonies that took place at the university on 30 Oct. Ravdin is the first medical officer to reach the rank of major general in the Army Reserve Corps. His retirement ceremony was attended by ranking officers from Philadelphia and Washington and from the Second Army Command Headquarters, Fort George G. Meade, Md. Gaylord P. Harnwell, president of the university, spoke on the program.

H. MAX HOUTCHENS has been named chief of the Veterans Administration clinical psychology division in the central office at Washington, D.C. He succeeds H. M. HILDRETH, who has accepted an appointment with the Public Health Service. Previously Houtchens has served as chief consulting psychologist to VA's clinical psychology division in the psychiatry and neurology service in Washington.