cent zinc sulfide and aircraft impactor equipment, should be added if at all possible. These give information as to particle concentrations downwind from the generator, and concentrations are of key interest in assessing the numbers of ice crystals per unit volume of seeded storms.

Third, actual counts of silver iodide nuclei in the plumes emitted by the generators should be carried out if it becomes possible to obtain airborne nucleicounting equipment. It is recognized that cloud base heights and general storminess during seeding situations, plus the hazard of the mountains themselves, pose serious problems here, but the need is a very real one.

5) *Synoptic analysis.* Meteorologists familiar with past seeding trials will recognize the need for much more thorough synoptic analysis of the storms seeded during any given program. In the Santa Barbara experiments there is need for some institution or agency to undertake the analysis of the Pacific frontal-cyclonic systems that comprise the seeded population, in order to gain badly needed physical insight into the reasons for the statistical answers that may be forthcoming. Whether the final answers prove positive or negative there will be great scientific interest in the detailed processes that are involved in the seeded storms of this experiment. Thermodynamic analyses and airflow analyses are needed. Fortunately, it is in the nature of this problem, that the analysis can be done later, without any immediate provision of additional facilities. However, the interest of other groups in attacking this problem is invited now.

Inquiries regarding the Santa Barbara Cloud Seeding Experiment should be addressed to either of the present three participating institutions, preferably with copies to the remaining two, as follows: (i) California State Department of Water Resources, Sacramento, Calif.: Attention Mr. Robin R. Reynolds; (ii) North American Weather Consultants, Santa Barbara Municipal Airport, Santa Barbara, Calif.: Attention Mr. Robert D. Elliott; (iii) Statistical Laboratory, University of California, Berkeley 4, California: Attention Professors J. Neyman and E. L. Scott.

J. NEYMAN
Statistical Laboratory, University of California, Berkeley

Fertile Field for Communist Propaganda?

A federal judge has aroused the scientific community by commenting publicly that the younger generation of pure scientists seems to have succumbed to Communist propaganda. Alexander Holtzoff made this observation in Washington, D.C., when he sentenced Bernard Deutch, a graduate student in physics at the University of Pennsylvania, to 90 days in jail for contempt of Congress.

Deutch was a witness before the House Un-American Activities Committee at a hearing in Albany, N.Y., in April 1954. He admitted membership in a Communist group while attending Cornell University and answered questions about his personal activities. However, he refused on moral grounds to name other members of the group.

In November 1955 Federal Judge James R. Kirkland dismissed a contempt indictment against Deutch because it had failed to specify "willful" intent. However, the indictment was reinstated last July by the Federal Court of Appeals, which ruled that Deutch's refusal to answer had been a "positive, affirmative act" and "by its very nature deliberate and willful."

When Judge Holtzoff found Deutch guilty of these charges on 13 Dec., he addressed the court as follows:

"From evidence admitted in other cases that have come before the court, the court has gleaned the inference that the younger generation of pure scientists, specifically engaged in research in physics, has succumbed to Communistic propaganda."

He went on to explain that he was referring particularly to younger persons "engaged in pure science," and stated that a "dangerous" number of nuclear scientists have been found to be Communists. He said further that because of the brilliance of these scientists, they were potentially especially harmful "as subversive instruments." He then observed that "our educational methods have so changed in recent years" that young scientists lack "a proper cultural background" and are "abysmally ignorant of history, political science and economics." Deutch remains free on $500 bond pending an appeal.

So far two organizations have responded vigorously to Holtzoff. Charles C. Price, chairman of the Federation of American Scientists and head of the chemistry department at the University of Pennsylvania said in a letter that at least 1000 research physicists and teachers had been indicted by the jurist.

"While there have been instances of a few scientists, including physicists, whose thinking led to their association with the Communist cause at some time in their lives, we of the Federation strongly believe that the facts do not support your broad indictment of a whole generation of research physicists." Price added that Holtzoff's charges "poorly serve our national efforts to encourage young people to seek careers in science."

The Philosophical Society of Washington, an organization that is composed of 700 natural scientists, has also written a letter to Holtzoff. Malcolm C. Henderson, research professor of physics at Catholic University, was chairman of the committee that composed the communication, which included the following:

"We consider that not only is the distinction you draw between the alleged susceptibility to communistic propaganda of the 'pure' versus the 'applied' scientist a fallacious one, but that there is no evidence that young scientists of any sort are more susceptible to such propaganda than other groups of young people within the general population. . . . We feel that you have been guilty of generalizing from an exceedingly small sample, and one which has been given most undue weight in the public press. . . . The damage that such ill-advised statements as yours may do is to be found in the divisive effect that they have, setting off the scientist even further from the general public, which is only too ready to distrust and dislike the habit of thought of the scholar or scientist. . . . Anything that makes a career in science less attractive to our young people, or which influences their elders to advise against it, can but weaken the country in the long run."

Expanded Conservation Program

The United States Fish and Wildlife Service will develop a greatly broadened conservation program for fish and wildlife resources. The goals of the program are to solve problems of destructive drainage threatening marshes and wetlands for migratory waterfowl and to initiate a planned program of land acquisition to meet Federal and state needs in wildlife management.

As the result of legislation approved by the 84th Congress, the service now has the authority to undertake greatly expanded programs for commercial fisheries. The service is reviewing every possibility that will benefit the fishing industry. All this material will be used in developing the new program.

Additional Declassification

A large additional volume of technical information essential to the development of a civilian nuclear industry here and abroad is authorized for open publication under a 1956 revision of the Tripartite Declassification Guide. The United States, Great Britain, and Canada use this guide to determine what atomic energy information, jointly held, may be published and what information is to remain classified.

The information declassified by the new guide, now approved by the three nations, relates to all phases of nuclear power from ore recovery and fabrication of fuel elements to the design and opera-

tion of plants for the chemical recycling of spent fuel elements from civilian reactors. Of prime interest to American industry is the newly authorized declassification of information on civilian power reactors.

The major release of data on research reactors dates back to November 1950. Many categories of restricted data have been available to cleared individuals and organizations in this country under the Atomic Energy Commission's Civilian Access Permit Program. The latest action will permit publication of a large portion of that information which hitherto has been governed by access permits. For example, among the facilities that become declassified under the new guide is our first full-scale civilian nuclear power plant now nearing completion at Shippingport, near Pittsburgh, Pa.; also the experimental sodium reactor at Santa Susana, Calif.; and the second-stage homogeneous reactor at Oak Ridge, Tenn. However, the access permit program remains as an important aid to the continued integration of U.S. industry and management in the atomic energy program on a free competitive basis.

In addition, and clearly related to the reactor data which will become available, is the declassification of the technology of the manufacture of heavy water; final stages of the separation of zirconium and hafnium, two metals used in reactors, and the liquid thermal diffusion process of isotope separation, which may be used to make slightly enriched uranium fuel.

Of interest to our friends abroad, especially those now participating in the program of cooperation in peaceful uses of nuclear energy through bilateral agreements, is the fact that the United States can now effectively cooperate with other friendly nations on an unclassified basis for civil power purposes. This will greatly facilitate the conclusion of agreements for cooperation.

Uranium mining operators, underwriters and investors in the United States and in other uranium producing countries will benefit by the removal of all tripartite restrictions on the publication of statistics on over-all uranium ore reserves, and present and future ore concentrate production figures. The world uranium industry, which now represents a private investment of many millions of dollars, will be able to participate in planning for nuclear power development.

Putting a new declassification guide into effect does not declassify any documents. The releasable information becomes publicly available when reports, drawings, photographs, and so forth are reviewed and certified to be declassified under the new guide. The commission will move ahead rapidly in its review of classified information of interest to industry. The commission expects to institute shortly an accelerated review program similar to the one that examined more than 30,000 documents and reports early this year. Following this accelerated rate of review, publication will be encouraged, and the most useful of the declassified material should be available within 6 months or less.

The information to be released will provide a practical basis for enlarging and improving high-school, college and university curricula on nuclear science and engineering, and textbook publishers will be enabled to produce new, updated texts and general study aids on the applications of nuclear energy.

News Briefs

■ The American Foundation for Allergic Diseases has reported that, although more than 17 million people in the United States suffer from allergic diseases, not more than 1500 physicians are practicing in the field of allergy. Two recent survey's by the foundation indicate that little improvement in this shortage can be expected in the immediate future. The surveys, made possible by grants from the New York Community Trust, were concerned with both graduate and undergraduate medical education in the field of allergy.

■ The American Medical Association reports that, during the academic year 1955–56, 1573 women were studying medicine in the 76 approved 4-year medical schools in the United States. This is a 2.3-percent gain over the previous year.

The Woman's Medical College of Pennsylvania had the highest enrollment of any school—182. The medical schools of Columbia University and State University of New York each enrolled 40 or more women.

■ More than 100 geologists, biologists, oceanographers, and other scientists have participated in the preparation of the Geological Society of America's *Treatise on Marine Ecology and Paleoecology*. Volume 2, *Paleoecology,* edited by Harry S. Ladd, will be available in January or February 1957. Advance orders may be placed with the Geological Society, 419 West 117 St., New York, N.Y.

Volume 1, edited by Joel Hedgpeth, will be published later in 1957.

■ The Department of Agriculture has reported that the total production of crops in the United States during 1956 was 6 percent above the average for the base period of 1947–49. This production, which equals the record of 1948 and 1955, was attained despite the reduced number of acres in cultivation and the losses due to a late spring and widespread drouth. The harvest was derived from 314 million acres, or some 29 million fewer acres than the average for the decade of 1945–54. The increase is attributed to the intensive use of farm machinery and fertilizer. The average yield per acre for 1956 was 123 percent of the average for 1947–48.

Scientists in the News

JAMES C. THOMSON, until recently medical consultant of the World Health Organization in Iran and Pakistan, has accepted a joint assignment under both WHO and the Food and Agriculture Organization to make nutritional status assessment surveys of the school children of Turkey. His address is UNTAB Office, P.K. 407, Ankara, Turkey.

CHARLES KITTEL, professor of physics at the University of California in Berkeley, has received the 1957 Oliver Buckley solid-state physics prize of the American Physical Society, for his applications of magnetic resonance methods to investigations of the electronic structure of solids. This $1000 prize is presented by the society "to a person who has been adjudged to have made a most important contribution to the advancement of knowledge in solid-state physics within the 5 years immediately preceding the award." The award will be presented at the annual meeting of the American Physical Society in New York at the end of January 1957, at which time Kittel will give the Buckley lecture on the subject "The role of magnetic resonance studies in the physics of solids."

THEODORE BERLAND, former assistant director of public relations at the Michael Reese Hospital Medical Center, Chicago, Ill., has joined the office of public relations of the University of Chicago as science writer. He succeeds GEORG MANN, who resigned to take another position.

The two A. Cressy Morrison prizes in natural science, which are awarded annually by the New York Academy of Sciences for original research, were presented to WILLIAM LOW, Enrico Fermi Institute for Nuclear Studies, University of Chicago, for his paper on "The paramagnetic resonance and optical spectra of some ions in cubic crystalline fields," and to GUY-LAURENT REMILLARD, Université de Montreal, Montreal, Canada, for his paper entitled "Histochemical and microchemical observations on the lipids of interscapular brown fat of the female vespertilionid bat."