

program recommended by the Press panel and has said that it should be administered by the USGS.

Ian Campbell, chief of California's division of mines and geology and president of the Association of American State Geologists, said the earthquake prediction program should be conducted by USGS and not scattered among several agencies. He said the basic investigations, measurements, and processing and interpretation of data could best be done by a single agency.

Robert A. Frosch, a member of the Press panel and deputy director of the Defense Department's Advanced Research Projects Agency (ARPA), which administered the Vela Uniform project in underground nuclear test detection, is understood to favor USGS for the management role, though he does not confirm this. In Vela Uniform, ARPA relied in part on both USGS and the Coast and Geodetic Survey.

Another member of the Press panel, Harry H. Hess, chairman of the geology department at Princeton and a past president of GSA, told *Science* last week that he does not care particularly which agency manages the earthquake prediction program. Hess said he has written Hornig endorsing USGS's plans for earthquake research at Menlo Park and urging that the Coast and Geodetic Survey be strengthened scientifically. He said that, in the earthquake program, CGS should be more than a service organization confined to the unexciting tasks of operating seismograph stations and cataloging data.

Hollomon, Commerce's enthusiastic assistant secretary, says it was at the request of the President's Science Advisory Committee (of which Hornig is chairman) that ESSA submitted a plan showing how it could manage the earthquake prediction program. "Somebody has to have systems responsibility for the program, and we have proposed that ESSA is an appropriate agency," said Hollomon, in an interview with *Science*. "But I'm not running around the government on a white charger trying to establish a program responsibility for the earthquake prediction business.

"I don't think it's terribly important who coordinates the program so long as it is recognized that the final judgment as to when, and under what conditions, earthquake warnings go to the public remains an ESSA responsibility," Hollomon said. "If we are to issue warnings, it is essential that we have a strong



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role in the prediction program because one day we will have to use the results."

Hollomon said that, aside from any earthquake prediction program, ESSA needs to strengthen itself in the earth sciences for the sake of its existing programs in seismology and geodesy. "Every major harbor in Alaska has had to be recharted because of the earthquake," he said. "Every major geodetic line in the region has had to be redone. How in the world is ESSA going to do this intelligently unless it understands the character of the changes in the earth that take place? That does not mean that ESSA must have all of the geophysics and geochemistry, or even most of it, that the Geological Survey has. It would be silly to reproduce the Survey's staff."

Hollomon observed that, with respect to certain aspects of the earthquake prediction problem, such as developing techniques for measuring small distortions, neither ESSA nor USGS is competent enough. "If there is to be a major earthquake prediction program, ESSA, USGS, the National Science Foundation, and the universities all must increase their competence and their personnel in the earth sciences," he said.

Hollomon acknowledged with a smile that, with the creation of ESSA, he has created a stir among the officials responsible for scientific activities throughout the government. Some people refer to him as an empire builder, but he waves the suggestion aside. "I'm not going to stay in the government forever," he said. "So who would I be building an empire for? The only thing I want to contribute while I'm here is institution building—to leave behind me more ef-

fective, stronger, more serviceable institutions."

Suspensions sometimes are voiced that Hollomon would like to see ESSA absorb the Geological Survey and serve eventually as the framework for a Department of Science and Technology. As for absorbing USGS, Hollomon neither affirms nor rejects the idea, but says: "If the President's office or anybody else wants to undertake a study of any kind of organization that affects us, presumably we'll be asked for our advice and we'll give it."

Hollomon is opposed to any reorganization of government science that would take from the various agencies the scientific programs which are necessary to their missions. He is not sure, however, that a Department of Science and Technology would be incompatible with the continued integration within agencies of those science programs essential to agency missions. "It's conceivable to me, but I don't know," he said.

Lloyd V. Berkner, director of the Southwest Center for Advanced Studies and an advocate of more consolidation of government science, was chosen to deliver the principal address at an ESSA ceremony last October. Berkner indicated that the consolidation achieved by ESSA was but a step down a long road. "We cannot rest until the task is complete," he said. "Other areas of environmental science are still disconnected, still having gaping crevasses in the continuity of our environmental services."

As an Interior Department official—one concerned lest ESSA take over the management of the earthquake prediction program—recently observed, "The ESSA concept is not one that will stop where it is now."—LUTHER J. CARTER

## **Announcements**

People who want to try **changing the weather** after 1 February have to give the National Science Foundation a month's notice. An NSF regulation that went into effect this month requires 30 days advance notice from anyone planning "activities aimed at modifying the atmosphere." The ruling applies both to commercial cloud seeders and to scientists. Failure to comply could bring fines of up to \$500. Notifications should be sent to Peter H. Wykoff, NSF, Washington 20550.

In addition to announcing their at-

tention to NSF, persons attempting weather modification must maintain daily logs of field activities, submit quarterly reports of activity, and keep records of any weather modification attempts for 5 years.

The regulation is designed to obtain information for further research and planning and to help determine the possible contamination of control areas that should be kept free for research programs already under way.

Copies of the ruling are available from NSF.

Baltimore will be the site of a \$2 million PHS laboratory to study **water pollution control** problems of the Middle Atlantic states. The laboratory is expected to be ready for operation by the end of 1967. Its work will include both industrial and municipal pollution, effects of various pollutants on aquatic life of coastal and tidal waters, and methods of dispersing waste discharges in coastal waters.

## Meeting Notes

A conference on **mass spectrometry** and allied topics is scheduled for 22–27 May in Dallas. The sponsor will be the American Society for Testing and Materials. Papers on research and development topics relating to mass spectrometry and ionization phenomena are solicited. Abstracts deadline: *15 February*. (H. M. Rosenstock, National Bureau of Standards, Washington, D.C. 20234)

Papers are being solicited for presentation during a national meeting of the Society for **Applied Spectroscopy**, 13–17 June in Chicago. Topics to be covered include all areas of theoretical and applied spectroscopy and gas chromatography. Abstracts: 200; deadline, *1 March*. (E. Lanterman, Borg-Warner Corp., Des Plaines, Illinois 60018)

The call for papers has been issued for the 71st meeting of the **Acoustical Society of America**, in Boston 1–4 June. Manuscripts in all branches of acoustics are invited. Contributed papers on psychological and physiological acoustics, speech communication, and underwater acoustics will be given special treatment in an experiment on voluntary limitation of presentation time; persons submitting abstracts on these topics are asked to state how long they

will need to present their papers—6, 9, or 12 minutes. If no indication is given, the meeting committee will allot a suitable time limit. Abstracts: 200 words; deadline: *2 March*. (Lawrence Batchelder, Lever Building, Raytheon Company, 20 Sevon Street, Waltham, Massachusetts 02154)

Papers are solicited for presentation at the annual convention of the Society of **Technical Writers** and Publishers, scheduled for 11–14 May in Fort Worth, Texas. Papers should cover progress in various areas of technical communication. Deadline: *28 February*. (Dorothy W. Green, IIT Research Institute, 10 West 35th Street, Chicago, Illinois 60616)

The University of Maryland is planning an international **horticultural congress**, 15–20 August, at College Park. The sponsors include the International Society for Horticultural Science, American Society for Horticultural Science, and the American Horticultural Society. Participation in plenary sessions and colloquia will be by invitation only. Papers are being solicited for other sessions. Deadlines: titles: *15 February*; summaries, in English: *15 March*. (Secretariat, 17th International Horticultural Congress, Center of Adult Education, University of Maryland, College Park 20742)

## Courses

A course on **biomedical telemetry** will be offered 18–20 March in San Francisco, sponsored by the University of California extension and the AIBS Bioinstrumentation Advisory Council. The course will include discussion of fundamental electronic concepts and circuitry, systems and components, case studies of research applications, and research problems. Tuition: \$60 for graduate students, \$125 for others; deadline: *11 March*. (Letters and Science Extension, University of California, 2223 Fulton Street, Berkeley 94720)

A course on **DNA-RNA hybridization** will be held 9–28 May at the International Laboratory of Genetics and Biophysics, Naples, Italy. The main purpose is to teach detailed techniques used in the formation, detection, and quantitative assay of DNA-RNA hybrids. Participants will use molecular hybridization to examine for sequence homologies and to estimate genome por-

portions reserved for various specific genome purposes. The course will be taught in English. Participating is limited to 16 postgraduate students in mathematics, physics, chemistry, or biology. Six fellowships, covering travel and living expenses, will be offered by the International Cell Research Organization and sponsored by UNESCO. Ten fellowships for living expenses only will be given by the laboratory. Application deadline: *15 February*. (Laboratorio Internazionale di Genetica e Biofisica, Casella Postale 104, Naples)

## Grants, Fellowships, and Awards

The National Academy of Sciences–National Research Council is offering **postdoctoral resident research associateships** for work at one of the following government laboratories or research centers: U.S. Agricultural Research Service, David Taylor Model Basin, National Bureau of Standards, Naval Medical Research Institute, Naval Ordnance Laboratory, Naval Research Laboratory, Navy Electronics Laboratory, Air Force Systems Command, Army Biological Laboratories, and the U.S. Weather Bureau. Applicants must be U.S. citizens and must have a doctorate in a pertinent field or have completed all the requirements for the degree. In addition to the applications, candidates must submit a copy of form 57, college transcripts, statement of previous research, and research proposal. Stipends are \$10,250, plus transportation allowance. Recipients may not accept other appointments during the tenure of the associateship. Deadline for applications: *15 February*; the work will begin after 1 July (Office of Scientific Personnel, Room 318, NAS–NRC, 2101 Constitution Avenue N.W., Washington, D.C. 20418)

*Erratum:* The lower part of Table 1 of the report "Judgments of sameness and difference: experiments on decision time" by D. Bindra, J. A. Williams, and J. S. Wise [150, 1625 (17 Dec., 1965)] should have read as follows:

Experiment 2: Instructions varied			
"... same?"	Yes	1.11	10
"... same?"	No	0.96	40
"... different?"	No	1.30	15
"... different?"	Yes	1.14	39

The erratum published 24 December was incomplete. Reprints have been corrected.

*Erratum:* In the title of the report "Marmosets (Hapalidae): breeding seasons, twinning, and sex of offspring" by J. K. Hampton, Jr., and S. H. Hampton [150, 915 (12 Nov. 1965)], the word "Hapalidae" was incorrectly spelled "Hapiladae."

*Erratum:* In the title of the report "Visnagin: biosynthesis and isolation from *Ammi visnaga* suspension cultures" by B. Kaul and E. J. Staba [150, 1731 (24 Dec. 1965)] the word "visnaga" was incorrectly spelled "visnagi."