ments unless it is protected, its executives are not above contemplating the prospect aloud.

RCA's case could be buttressed by publicly demonstrating how the removal of tariff has affected its sales, but so far the company has declined to expose what it calls its competitive position. This refusal is puzzling, both because it is hard to see why competition in a domestic market, which consisted in the most educated guess (there are no authoritative figures available) of only 220 units last year, should be secretive and because RCA's role in the market seems assured. It is estimated that RCA commanded about 37 percent of the domestic market last year—about 80 instruments—leaving the eight other manufacturers to divide the remaining market of 140 instruments among them. RCA itself estimates that it has produced only slightly less than half the electron microscopes in use anywhere today. In any case, electron microscopes are just a small portion of RCA's enterprises: last week the corporation announced new records of $1.75 billion sales and $51.5 million operating profits for 1962.

Most foreign producers of the microscopes do not share the anxieties of Hitachi, and remain unconcerned about the tariff, both because they are confident that the unique qualities of each will continue to be in demand, and because their companies are able to produce such a very small number of these complex instruments (in the case of one instrument widely regarded as superior the number is as low as two per month) that selling them is no problem whatever. These firms anticipate that the market will remain approximately constant, tariff or no tariff.

One final aspect of the whole maneuver is that although in all probability the tariff would not significantly affect the market, it would affect the cost of research in the U.S. by raising equipment costs for researchers who will continue to purchase the foreign microscopes that best suit their needs. Since it is estimated that between 65 and 80 percent of the electron microscopes sold here each year are purchased by nonprofit institutions, and since it is in many cases the federal government which contributes substantially to such institutions, the end result—if the measure goes through—will be the government taxing itself for a benefit to RCA that is more apparent than real.

—ELINOR LANGER

The Manhunters: British Minister Blames American Recruiters for Emigration of Scientists

Although no one likes to talk about it very much, it is no secret that manhunts against foreign scientific establishments have beefed up many a research staff in this affluent country. The losing countries do not like to advertise the fact that they cannot provide the salaries, professional opportunities, and facilities to hold some of their best people; the hunters tend to be discreet about their successes. As a result, the subject has largely remained outside public discussion.

Last week, however, Viscount Hailsham, Britain's Minister of Science, said his country had endured the depredations long enough. In an address to the House of Lords he let loose at the raiders, and, in turn, the Labor opposition let loose at him, charging that it was the government's niggardliness, rather than the wiles of manhunters, that has created the westward flow of British scientists.

Hailsham said: "We are in the presence of a recruiting drive systematically and deliberately undertaken by American business, by American universities, and to a lesser extent, American government, often initiated by talent scouts specially sent over here to buy British brains and preempt them for service of the U.S.A."

He conceded that conditions in Britain had something to do with the departures, but he seemed to find some consolation in the theory that the quest for British scientists mainly reflected the inadequacies in American education.

"I look forward earnestly," he said, "to the day when some reform of the American system of school education enables them to produce their own scientists so that, in an amiable free trade of talent, there may be an adequate interchange between our country and theirs, and not a one-way traffic."

The opposition was not long in coming back at Hailsham, offering the view that it's worse than you think and you're partly responsible for it. In an address the next day at the Imperial College of Science and Technology, in London, Harold Wilson, leader of the Labor party, charged that the government was being "appallingly complacent" when it estimated that by the middle 1960's British supply and demand would be in balance. It will, he said, "if we don't give science its proper place in national life. We shall no doubt be training all the bullfighters we need, because we don't use many."

The occasion for the debate was the release of a Royal Society study, "Emigration of Scientists from the United Kingdom," which disclosed that emigration now claims about 17 percent of all Ph.D.'s awarded in Britain each year. Last year, 58, or 5.6 percent of these, came to the U.S., bringing the 10-year total to 518. Figures were not available on how many of these moves were self-motivated and how many were the result of recruiting. But, in any case, the report noted that "the emigration of scientists has created some serious gaps in the scientific effort of this country. Instances were noted of scientists leaving university and other research institutions after establishing thriving research groups."

Since the cross-Atlantic flow of scientists cannot be controlled by fiat, it would seem that if Britain is to stop the exodus, it is going to have to give science the recognition and support that makes scientists happy to stay where they are. Some persons have pointed out that a good starting place would be Hailsham's office itself, which is structurally outside the mainstream of policy formation on scientific matters. Its title suggests that it is a counterpart of this country's White House Office of Science and Technology, but in fact it has little to say about the government's relationship with science, and Laborites charge that it was established, after the last election, to take the bite out of the Laborite contention that the Conservatives were not paying enough attention to British science. Hailsham himself is not a scientist, and, while he is Minister of Science, he is without a ministry.—D.S.G.

Announcements

The first **science high school** to be established in Turkey is scheduled to open in the fall of 1964, in Ankara. It is supported by a $1.1 million Ford Foundation grant. The new school will specialize in training in biology, chemistry, physics, and mathematics. A student body of 300 will be selected through nationwide entrance examinations. Turkey's ministry of education

plans to train a faculty for the school and to use the methods developed in this program in regular secondary schools throughout the nation.

Florida State University, Tallahassee, has been chosen to help in the establishment of the school and the teacher-training program and to administer the project's continuing activities during its first 2 years of operation. Stanley Marshall, head of the F.S.U. science education department, will be codirector of the program with a Turkish scientist, to be named.

Meeting Notes

A symposium on **streamflow regulation for quality control in water** is scheduled for 3–5 April, in Cincinnati, Ohio. Papers will be presented by 22 members of federal and state government agencies, from colleges, universities, and private industry. The meeting is sponsored by the U.S. Public Health Service water supply and pollution control division, technical services and applied science branches. The symposium is designed to present an exchange of information on the effect of flow regulation on water quality, and will feature coordination of efforts to solve quality control problems. (J. E. McLean, R. A. Taft Sanitary Engineering Center, 4676 Columbia Pkwy., Cincinnati 26, Ohio)

An international symposium on factors determining the behavior of **plant pathogens in soil** will be held 7–13 April in Berkeley, Calif. It is sponsored by the National Academy of Sciences–National Research Council's committee on biological control of soil-borne plant pathogens. Participation is by invitation. Deadline for application: *15 March.* (W. C. Snyder, Department of Plant Pathology, University of California, Berkeley 4)

Rice University, Houston, Texas, will be the site of an international symposium on the **natural radiation environment**, 11–13 April. Approximately 50 papers by scientists from ten countries will be presented. Subjects to be covered will include the distribution of natural radioisotopes in the earth, atmosphere, food and water, the properties of the cosmic and terrestrial gamma radiation fields, and the exposure levels of the general population. (J. A. S. Adams, Department of Geology, Rice University, Houston 1, Texas)

A symposium on **aromatic biosynthesis and metabolism**, sponsored by the Chemical Institute of Canada, will be held on 16 and 17 May in Saskatoon, Saskatchewan. (A. J. Finlayson, Prairie Regional Laboratory, N.R.C., Saskatoon)

The Federation of American Societies for **Experimental Biology** will hold its annual meeting 16–20 April, in Atlantic City, N.J. Approximately 3380 papers will be presented reporting the latest results of research in the basic medical sciences. In addition, 26 symposia are scheduled. About 280 industrial and scientific exhibits will be presented. The federation's personnel placement service will schedule 1500 interviews between employers and prospective employees in the biological fields represented by the organization. (Dr. M. O. Lee, 9650 Wisconsin Ave., Bethesda, Md.)

Courses

Eight graduate courses in **field biology** will be offered at the University of Virginia's Mountain Lake Biological Station during the summer. The National Science Foundation is offering three types of fellowships for the program: postdoctoral, for research, carrying a $900 stipend; predoctoral, for supervised research, with a $400 stipend; and postgraduate training in field biology, carrying a stipend of $300. Deadline for receipt of applications: *12 April.* (J. L. Riopel, Department of Biology, University of Virginia, Charlottesville)

Harvard University's division of engineering and applied physics will present a course on the **solidification** of metals and semiconductors, 15–26 July. The program will include equilibrium between solid and liquid metals, nucleation influence of heat flow and diffusion on crystal growth, eutectics and peritectics, solidification as an atomic process, and structure of cast metals. Tuition is $300; graduate students and faculty may apply for reduced rates. (Solidification Program, Harvard Summer School, 626 Holyoke Center, Cambridge 38, Mass.)

A course in **applications of radioisotopes** to mining and mineral industries will be offered 27 May to 14 June at Oak Ridge Institute of Nuclear Studies. Sponsored by the U.S. Atomic Energy Commission, the course will provide lecture and laboratory training in such topics as activation analysis, hydrogen gauging, use of radioisotope x-ray sources, and neutron activation.

The course will be limited to 24 participants. Applicants must have at least a bachelor's degree in engineering or the life sciences. Deadline for receipt of applications: *10 May.* (Special Training Division, Oak Ridge Institute of Nuclear Studies, P.O. Box 117, Oak Ridge, Tenn.)

Grants, Fellowships, and Awards

The American College of Chest Physicians is sponsoring the 14th annual **prize essay contest**, open to undergraduate medical students. Contestants may write on any phase of diagnosis and treatment of chest diseases; five copies of the essay must be submitted in English, along with an official application form. Prizes will be $500, $300, and $200. Winners will be announced at the American College of Chest Physicians annual meeting in June. Deadline for receipt of essays: *1 April.* (M. Kornfeld, American College of Chest Physicians, 112 E. Chestnut St., Chicago 11)

The University of Oklahoma is offering five predoctoral and ten postdoctoral grants for participation in a summer research program in **mathematics** or **computer science.** Participants will conduct research of their own choice, and will receive stipends of $750 to $1600, plus travel allowance. This research program is sponsored by the National Science Foundation. (R. V. Andree, Department of Mathematics, University of Oklahoma, Norman)

Nominations are being accepted for the Albert Lasker **medical research** awards in basic and clinical research. The prizes, sponsored by the Albert and Mary Lasker Foundation, carry a $10,000 honorarium, a statuette of the Winged Victory of Samothrace, and an engraved citation.

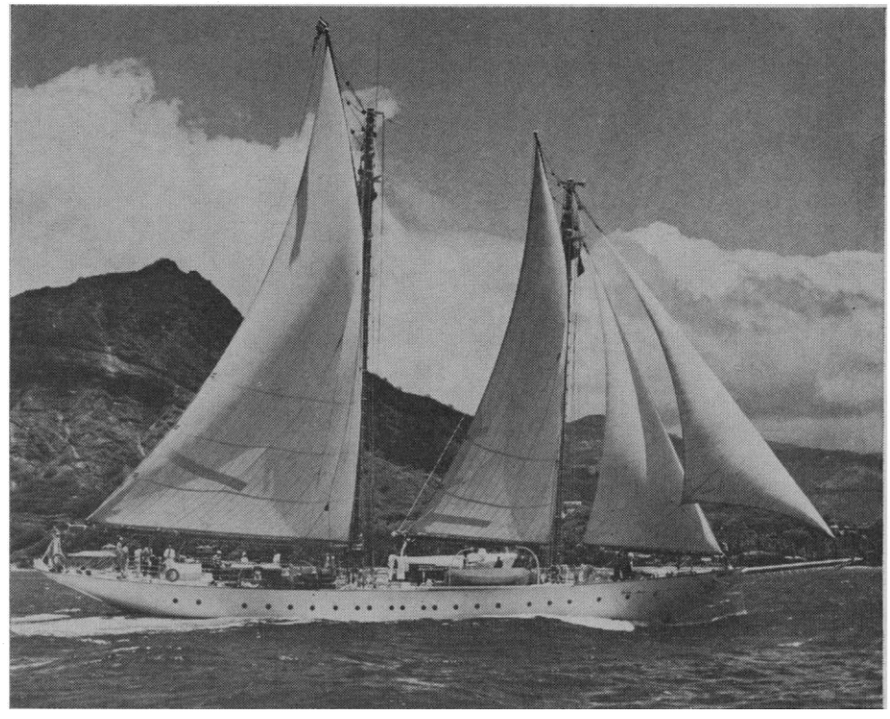
The basic medical research award is presented for "fundamental, biological and medical investigations which provide techniques, information or concepts that are prerequisite to the elimination of the major causes of death and disability."

The clinical research award is given for contributions to the "alleviation or

elimination of one of the major causes of death or disability and the prolongation of the prime of life."

Nomination blanks were issued last week to the heads of medical schools, hospitals, and research laboratories throughout the country.

The National Science Foundation has announced the next closing dates for their **research and facilities** programs: renovation and construction of graduate level research facilities, *1 April*; the life sciences, *1 May*; basic research, *15 May*. Further information can be found in the NSF booklet "Grants for Graduate Level Research Facilities." (Public Information Office, NSF, Washington 25)



With federal interest in oceanography increasing rapidly, the fleet of research vessels is expanding. A coming addition is the *Te Vega,* a former racing yacht and U.S. Coast Guard patrol ship that is being converted into a "floating classroom" for Stanford University's Hopkins Marine Station, under a $700,000 National Science Foundation grant. The 135-foot schooner will leave Monterey, Calif., in June, to participate in an international survey of the Indian Ocean. The scientific crew will consist of three senior staff scientists as faculty members, and 12 graduate students, each of whom will serve 3 months; the first cruise-course will last until September. The *Te Vega* is scheduled to return to California in about 3 years.

Applications from students, male and female, are now being accepted. They should consist of a letter stating the applicant's school, major professor, science courses and grades, status of graduate studies, and an explanation of how the cruise would further the applicant's professional plan. Also required are recommendations from three of the applicant's professors. Deadline: *1 April.* (Chief Scientist, Te Vega Expeditions, Hopkins Marine Station, Pacific Grove, Calif.)

Publications

The federal government was recently advised to give top priority to the search for life on other planets. The recommendation was made in a 476-page report, **A Review of Space Research**, published by the National Academy of Sciences–National Research Council, following an 8-weeks' study by its space science board. The study was made last summer at the request of the National Aeronautics and Space Administration.

The board, under its chairman, Harry H. Hess, consulted approximately 100 scientists from government, industry, and universities. Its report emphasized the goals of searching for signs of extraterrestrial life and of increasing the role of scientists in future U.S. space missions.

The report stated that the discovery of life on other planets by either the U.S. or the Soviets would have an "enormous and lasting impact on people of every race and culture the world over, whether they are scientists or not." The report also points out the importance of having "an opportunity to gain a new perspective on man's place in nature."

The report also recommended that NASA train scientists for active participation in space investigations. (National Academy of Sciences, 2101 Constitution Ave., NW, Washington 25. Publ. No. 1079, $4)

An 89-page bibliography on the **Administration of National Security** has been issued by the Senate Government Operations Committee. The bibliography includes listings on arms control, research and development, administration in space and atomic energy and political-military coordination. Copies may be obtained without charge by writing to the committee, Room 137, Old Senate Office Building, Washington 25.

The RAND Corporation last month released three reports in its self-sponsored research series on international communications:

"Submarine Telephone Cables and International Telecommunications" (RM-3472-RC. 35 pp.) discusses the development of cable systems and their role in transoceanic telecommunications, as well as an analysis of the possible competition offered by a future communications satellite system.

"Foreign Participation in Communications Satellite Systems: Implications of the Communications Satellite Act of 1962" (RM-3484-RC. 91 pp.) covers the policy objectives and effects of participation by the U.S. and other nations in a communications satellite system, and discusses some of the critical issues for negotiations in the effective operation of the system.

"Communications Satellites: Technology, Economics, and System Choices" (RM-3487-RC. 101 pp.) describes the problems of communications satellites from the standpoints of technological considerations, international consideration, and costs and demands. (Reports Department, The RAND Corporation 1700 Main St., Santa Monica, Calif.)

The National Academy of Sciences —National Research Council has published a monograph on nonprofit scientific research, resultant discoveries and inventions, and patent policies governing them. **University Research and Patent Policies Practices and Procedures** is an updating of a similar monograph published in 1952. It dis-

cusses current policies and practices of 945 U.S. colleges, universities, technological institutes, and independent professional schools based on a survey recently completed for NIH and the Office of Naval Research, on behalf of the Departments of Army, Navy and Air Force. (Office of Patent Policy Survey, National Academy of Sciences, 2101 Constitution Avenue, Washington 25. NAS–NRC Publ. No. 999. $5)

The Nevada Bureau of Mines has released a series of 17 maps showing the distribution of the state's most important **mineral deposits.** The series supplements the bureau's "bulletin" and "report" series. (Nevada Bureau of Mines, University of Nevada, Reno)

A 30-page bibliography of reports on **atomic radiation** has been published by the U.S. Atomic Energy Commission. The list includes papers submitted to the United Nations Scientific Committee on the Effects of Atomic Radiation, between March 1961 and April 1962. (Office of Technical Services, U.S. Department of Commerce, Washington 25. TID–3909, Suppl. 1, $0.75)

Copies of the republished Carnegie Institution Monograph No. 35, **"Investigations of Infrared Spectra,"** are available from the Coblentz Society. The monograph, originally published in 1905, contains the work on infrared spectroscopy performed by the late W. W. Coblentz. (H. B. Kessler, Coblentz Society, c/o Perkin-Elmer Corp., Norwalk, Conn. $3.50)

The U.S. Public Health Service has made available a list of **radiological health research** publications on work conducted at the Robert A. Taft Sanitary Engineering Center. "Reference List of Publications, Sec. 4, Radiological Health Research, Tech. Report R63-1" is available free of charge from the center. (Publications Office, 4676 Columbia Pkwy, Cincinnati 26, Ohio)

Scientists in the News

Cyril S. Smith, metallurgy professor at M.I.T., has been named to receive the 1963 James Douglas gold medal from the American Institute of Mining, Metallurgical, and Petroleum Engineers.

Stephen Abrahamson, formerly professor of education at the University of Buffalo has become head of the newly formed division of research in medical education at the University of Southern California's school of medicine.

G. Paul Moore, chairman of the University of Florida's speech department, has been named to receive the William and Harriet Gould Foundation award for "outstanding fundamental contributions" in laryngology. The prize consists of a plaque and a $350 honorarium.

Randolph Batson, pediatrics professor at Vanderbilt University, has been appointed director of medical affairs and dean of the medical school at the university. He had been acting director and acting dean since last July.

Charles B. Brink, dean of the school of social work, Wayne State University, has been named dean of the University of Washington's school of social work.

Gardiner L. Tucker, formerly director of development engineering for the IBM World Trade Corporation, has been named director of research at IBM, succeeding **Gilbert W. King**, who has become vice president and research director at Itek Corp., Lexington, Mass.

Langdon Parsons, former gynecology professor at Boston University, and chief of the department of obstetrics and gynecology, Massachusetts Memorial Hospitals, has become clinical professor of obstetrics and gynecology at Harvard University, and director of alumni relations at the university's medical alumni association.

The new president of the National Institute of Sciences of India is **H. J. Bhabha**, chairman of the Indian Atomic Energy Commission.

John W. Findlay, deputy director of the National Radio Astronomy Observatory, Green Bank, W.Va., last month received the Glover Memorial medal from Dickinson College, Carlisle, Pa. He was cited for "distinguished service in the field of physics and education."

William A. Pease, formerly at RCA, Burlington, Mass., has become president of Aracon Laboratories, Boston, Mass.

John H. Williams, professor of physics at the University of Minnesota, has been elected president of the American Physical Society.

Charles B. Wakeman, former research and development vice president at Magnetics, Inc., Butler, Pa., has become director of electronics research in Corning Glass Works' electronic products division, Raleigh, N.C.

Julius S. Youngner, microbiology professor at the University of Pittsburgh's school of medicine, has been appointed visiting professor of microbiology at the University of Athens, Greece. He will serve until August.

Winners of this year's Cotton Genetics Research award are **Thomas Kerr**, of the U.S. Department of Agriculture, and **Thomas Richmond**, agronomy professor at Texas A&M College.

Robert A. Dietrich, technical director at the Librascope division, General Precision, Inc., has been named director of the research center in the company's newly formed information systems group.

Austin B. Chinn, formerly associate dean of the medical school, Western Reserve University, has become chief of the recently established gerontology branch in the Department of Health, Education, and Welfare's division of chronic diseases.

Recent Deaths

Edwin B. Behrend, 91; retired professor of pathology and bacteriology and associate professor of medicine at Georgetown University; 26 Feb.

Gustave Bucky, 82; inventor of the Bucky x-ray diaphragm; 19 Feb.

Meville Herskovitz, 68; voted 1962 "Anthropologist of the Year" by the American Anthropological Association; professor of anthropology and of African affairs at Northwestern University; 25 Feb.

Marie Bertha Pabst, 54; associate geology professor, Western Washington State College, Bellingham; 7 Feb.

Louis Schwartz, 79; retired medical director, U.S. Public Health Service; 25 Feb.

Raymond L. Shoemaker, 69; former dean of students, Indiana University; 25 Feb.