

praisal that may (i) cause FDA to restudy its position and (ii) serve as potent argument if the matter is forced to a legal showdown.

Fish flour, also known as fish protein concentrate, is a powdery substance that has caught the administration's attention as an excellent solution for protein deficiencies in underdeveloped nations. Its principal virtues are high protein content, low cost, stability without refrigeration or expensive packaging, and tastelessness, which makes it suitable as a supplement for various cultural food preferences. The cost, however, is low only if the product is made from whole fish, since the labor involved in eviscerating the raw material raises the price considerably.

Last January, FDA, in response to a domestic manufacturer's application for certification, noted informally that the product contains fish eyeballs, intestines, gills, and scales, and then concluded officially that "consumers in the United States generally would regard the product . . . as filthy." It subsequently set forth a requirement that the product could be sold in interstate commerce only if made from cleaned fish.

Difficulties Abroad

The decision did not have any significant effect in this protein-rich country, but it posed difficulties for promoting use of the product abroad. For one thing, the public health authorities in many underdeveloped nations look to FDA as a guide for their own standards; furthermore, the decision left the administration open to propaganda charges that it was trying to get foreigners to eat a product that it considered entirely unsuitable for its own people.

The Academy study was conducted at the request of the Interior Department, whose Bureau of Commercial Fisheries sees fish flour as a new and sizable source of income for the troubled American fishing industry. The study concluded that fish flour seems to be more wholesome than a number of whole fish products that go unchallenged by FDA—sardines, oysters, clams, and shrimp. (FDA has explained that it is not troubled by these products because they were widely consumed before FDA came into existence.) But the Academy also noted that more research is needed on fish flour to control the quality and the solvent

residues from the production process.

The Bureau has undertaken a broad research program at its Technological Laboratories, College Park, Maryland; considerable work is also being done by the Food and Agriculture Organization of the United Nations.

Disarmament: Copies of Testimony by Administration Leaders Available

Detailed and illuminating testimony by administration officials on the formulation of American arms control and disarmament policies is contained in a congressional transcript released last week.

The transcript, covering 120 pages, contains testimony given in September by William C. Foster, director of the Arms Control and Disarmament Agency; Franklin Long, director of the agency's bureau of science and technology; Paul H. Nitze, assistant secretary of Defense for International Security Affairs, and Secretary of State Dean Rusk. Classified information has been deleted from the transcript, but the remaining material, while offering no revelations, provides considerable information on ACDA's interagency dealings and on the concepts that are dominant in administration thinking on disarmament. Copies, titled "Arms Control and Disarmament Hearings, September 1962," may be obtained without charge from the Senate Armed Services Preparedness Investigating Subcommittee, Washington, D.C.

Addition to News and Comment Staff

John R. Walsh, former assistant to Congressman John Brademas of Indiana, has joined the News and Comment staff. Walsh is a graduate of Middlebury College and Oxford University. He was a reporter for the *Louisville Times* from 1955 to 1960.

Announcements

An agreement to cooperate in the testing of **experimental communications satellites** has been signed by the Japanese government and the National Aeronautics and Space Administration. The Japanese Ministry of Posts and

Telecommunications is to provide a ground station with capability for communication by means of American artificial satellites. Transmissions are to be used for test purposes only, although attempts will be made to arrange for telephone, radio, television, and wire-photo demonstrations through domestic telecommunications networks. Each agency is to designate a central point for continuing exchange of information relating to the tests, and will defray all costs of their respective activities.

A **National Institute of Child Health and Human Development** is to be established early in 1963 within the National Institutes of Health to promote and support studies directed at the entire life span process. The new institute, which will include the current Center for Research in Child Health, is expected to stimulate research in such problems as congenital malformations, infant mortality, mental retardation, and maternal influences on development and health of infants and children. The bill authorizing its establishment was signed by President Kennedy on 7 October.

The U.S. Atomic Energy Commission has initiated a nationwide personnel recruitment program to obtain engineers and scientists with experience in various **atomic energy** fields, including reactor development, physical research, biology and medicine, and AEC regulatory activities. Particularly desired are nuclear engineers and physicists, radiation specialists, physicists, mathematicians, biologists, and other biomedical scientists. Candidates in the nuclear reactor field should have a B.S. degree or its equivalent in nuclear engineering, physics, or in mechanical, chemical, metallurgical, or electrical engineering. In the health physics—radiation protection field, the basic requirement is a B.S. degree in the physical sciences and mathematics. For positions in physical and biomedical research activities, the basic requirement is a Ph.D. degree or its equivalent in physics, chemistry, mathematics, biology, physiology, or related life sciences. All candidates must have research experience in atomic energy activities. Salaries range from \$8025 to \$17,925 per year. (Coordinated Technical Recruitment, Headquarters, AEC, Washington 25, D.C.)

The American Board of Nutrition has announced that the next examinations for certification as a **specialist in human nutrition** will be held on 15 April in Atlantic City, N.J. Application deadline: *1 March*. (Robert E. Shank, Dept. of Preventive Medicine, Washington University School of Medicine, Euclid and Kingshighway, St. Louis 10, Mo.)

The Cell Culture Collection Committee, organized in 1960 to establish standards for **animal cell strains** used in biologic research, has announced certification of the first 14 strains of cells. Reference and distribution stocks of these are now available for seed purposes on request. (John E. Shannon, American Type Culture Collection, 2112 M St., NW, Washington, D.C.)

Investigators interested in submitting cells for inclusion in the repository should write William F. Scherer, Dept. of Microbiology, Cornell University Medical College, New York 21.

Personal materials and memorabilia, or suggestions regarding sources of information on the late **Edward L. Thorndike** are being solicited for use in preparing his biography. (Geraldine M. Joncich, School of Education, University of California, Berkeley 4)

Grants, Fellowships, and Awards

Four awards for articles or theses on **meat sciences**—including biochemistry, nutrition, and animal breeding and husbandry—have been established to advance education in these areas. The awards, to be initially \$500 each, will be presented on the basis of educational and scientific contribution, accuracy, and coverage. Publication rights are required for all papers submitted. Candidates should be prepared to furnish copies of the source material upon request. (John A. Killick, Wilbur LaRoe, Jr., Memorial Foundation, 740 Eleventh St., NW, Washington 1, D.C.)

Applications are being accepted for the National Science Foundation summer fellowships for **secondary-school teachers of science and mathematics**. Fellowships will be awarded to support individually planned, graduate-level study programs in the mathematical, physical, and biological sciences, to be carried out at institutions in the U.S., its territories, or posses-

sions. Arrangements for admission to the institution are the responsibility of the fellow.

Applicants must be U.S. citizens, who have had at least 3 years' experience as a full-time secondary school teacher by 1 July 1963 and who teach at least one secondary-school class in either science or mathematics during each school year. They must hold a baccalaureate degree or its equivalent, and intend to continue teaching. Weekly stipends will be \$85, plus allowances, tuition, and fees, for tenures of one, two, or three summers. Deadline for receipt of applications: *4 January*. (NSF Secondary School Teacher Fellowships, AAAS, 1515 Massachusetts Ave., NW, Washington 5, D.C.)

Teachers, department heads, and supervisors of high school **chemistry, physics, and mathematics** are invited to apply for the 1963 Shell merit summer fellowships at Cornell and Stanford universities. In addition to a special course in each field, the program includes courses on the teaching of high school science and mathematics, discussion sessions, group seminars, and visits to industrial organizations. Candidates must have taught one of the above subjects for a minimum of 5 years by June 1963, and must hold at least a bachelor's degree. Participants will be granted a \$500 stipend plus full tuition, fees, health service, lodging, textbooks, and travel and food allowances. Deadline for applications: *1 January*. (Philip G. Johnson, Shell Merit Fellowship Program, 3 Stone Hall, Cornell University, Ithaca, N.Y., for those who reside east of the Mississippi; Paul DeH. Hurd, Shell Merit Fellowship Program, School of Education, Stanford University, Stanford, Calif., for those west of the Mississippi)

Postdoctoral fellowships and graduate assistantships in **biomathematics** are available at North Carolina State College. The program, designed to promote competence in the applications of mathematics to biology and in the development of biological theory, offers integrated study of biology, mathematics, statistics, and the physical sciences. Fellowships vary from \$5800 to \$7500 per annum; assistantships from \$2500 to \$5700. (James H. Meade, Jr., Institute of Statistics, P.O. Box 5457, Raleigh, N.C.)

Courses

A 2-week postgraduate course in **allergy** will be offered from 17 February to 1 March at Temple University, Philadelphia. The program will include a detailed review of the basic principles of immunology and allergy, with emphasis on the methods of diagnosis and management; the pediatric and dermatologic aspects will be demonstrated at clinical seminars. Tuition is \$200. (George I. Blumstein, Temple University Medical Center, Philadelphia 40, Pa.)

An experimental interdisciplinary research training program in **engineering and life sciences** was initiated this fall at the Polytechnic Institute of Brooklyn. The program, a joint project with the Long Island College Hospital, includes a \$250,000 development plan projected over the next 4 years to establish a Ph.D. engineering degree with a minor in medical engineering. The hospital's animal research laboratories and other facilities of its biomedical department have been made available to Polytechnic students for use in term projects or theses. (Polytechnic Institute of Brooklyn, 333 Jay St., Brooklyn 1, N.Y.)

Films

Behavior of Animals and Human Infants in Response to a Visual Cliff; 15 minutes; rental \$3.50, purchase \$73.50. A comparative study of depth discrimination of rats, chickens, young goats, and human infants (6 to 14 months old) shows that as soon as an organism is capable of locomotion it is also capable of depth perception. (Psychological Cinema Register, Audio-Visual Aids Library, Pennsylvania State University, University Park)

Nuclear Reactor; 9 minutes. Purchase \$60. Discusses nuclear stability and neutron-induced fission; develops the ideas of neutron emission, the self-sustaining chain reaction, and the role of the moderator and illustrates the applications of these ideas to the pile. The production of plutonium and tracer elements is discussed. (Text-Film Division, McGraw-Hill Book Co., 330 W. 42 St., New York 36)

Black Widow Spider; Her Life Cycle and Her Enemies; 12 minutes, color. Includes scenes of mating, construction of the egg sac, laying and

hatching of eggs, and development of spiderlings into mature spiders by the moulting process. Also shows the complete cycle of a small fly, and describes the praying mantis and the alligator lizard as enemies of the spider. (Ken Middleham Productions, P.O. Box 1065, Riverside, Calif.)

Chemical Balance Through Respiration; 20 minutes, color, free loan. Illustrates basic facts of respiratory physiology, with particular emphasis on gas exchange between lungs and tissue and the maintenance of a stable hydrogen ion concentration through breathing and the buffering action of the blood. Clinical conditions shown are respiratory and metabolic acidosis and alkalosis, and uneven ventilation. (Dept. of Professional Education, National Foundation, 800 Second Ave., New York 17)

The following films, which appeared on CBS-TV's "20th Century" series, are now available for free loan:

Downrange; 30 minutes. The course of a U.S. test missile, from countdown to recovery.

Guided Missile; 30 minutes. The story of its development.

Minuteman; 30 minutes. The missile that is launched in 32 seconds.

Alert! Defense in the Missile Age; 30 minutes. U.S. continental defense against ICBM's.

Nuclear Submarine; 30 minutes.

(Order from Association Films, Inc., 347 Madison Ave., New York 17)

Scientists in the News

Joel H. Hildebrand, emeritus professor of chemistry at the University of California (Berkeley), will receive the \$1000 William Proctor prize for scientific achievement, awarded annually by the Scientific Research Society of America.

Robert E. Dunaway, senior research scientist at Plasmadyne Corporation, has been appointed senior scientist in the department of experimental physics at MHD Research, Inc., Newport Beach, Calif.

Robert L. DeHaan, of the Carnegie Institution of Washington's embryology department, is serving as a visiting scientist in the department of zoology at the University of Zurich for the current academic year.

The following are winners of the 1962 Albert Lasker Medical Research awards of \$10,000 each:

C. H. Li, professor of biochemistry and experimental endocrinology and director of the Hormone Research Laboratory at the University of California (Berkeley), the basic medical research award for his isolation and identification of six of the hormones of the anterior pituitary gland.

Joseph E. Smadel, chief of the Laboratory of Virology and Rickettsiology at the National Institutes of Health, the clinical research award for his work in the use of chloramphenicol for treatment of infectious diseases.

Giampietro Puppi, professor of higher physics and director of the physics institute at Bologna University (Italy), has been appointed a member of the research directorate at the European Organization for Nuclear Research (CERN), Geneva, Switzerland. He replaces **Gilberto Bernardini**, who is returning to Rome University as professor of physics.

LeVan Griffis, dean of engineering and professor of mechanical engineering at Rice University, has been named vice president of the recently founded Southwest Research Institute-Houston (Tex.).

George D. Snell, senior staff physicist at the Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine, has received the \$500 Charles A. Griffin award for his "accomplishments in the improvement of the care and quality of animals used in biologic and medical research." The prize is presented annually by the Animal Care Panel, Joliet, Ill.

Julius Frome, former patent research specialist with the U.S. Patent Office, has been appointed deputy for science and technology of the Armed Services Technical Information Agency, Arlington, Va.

Recent staff appointments at the University of Colorado:

Asim O. Barut, of the University of California's Lawrence Radiation Laboratory (Berkeley), as professor of physics.

Edwin A. Power, theoretical physicist at the University College, London, as visiting professor for the 1962-63 academic year.

James R. Shaw, former assistant surgeon general and chief of the Public Health Service's Division of Indian Health, has been appointed associate coordinator of research and professor of microbiology at the University of Arizona.

Robert M. Lumiansky has resigned as provost of Tulane University to devote full time to teaching and research. He is succeeded by **Maxwell E. Lapham**, dean of Tulane's school of medicine.

Morris Goldman, of the Laboratory of Parasitic Diseases, National Institute of Allergy and Infectious Diseases, has won the \$1000 Kimble Methodology award for his work on the application of the fluorescent antibody technique to diagnostic microbiology. The award, sponsored by Kimble Glass Company, is presented annually by members of the Public Health Laboratory Directors Conference.

S. William Pelletier, assistant professor at the Rockefeller Institute, has been appointed head of the chemistry department at the University of Georgia. He succeeds **Alfred W. Scott**, who retired last year.

Edson R. Peck, of Northwestern University, and **Everett F. Sieckmann**, of the University of Kentucky, have been appointed professor and associate professor, respectively, in the University of Idaho's department of physics.

Col. M. R. Collins, Jr., retired chief of guided missile systems in the Army Ordnance Research and Development Division, has been appointed manager of the newly created product assurance program office at Lockheed Missiles & Space Company's space systems division, Sunnyvale, Calif.

Alexander Dalgarno, professor of quantum mechanics and director of the computing laboratory at Queen's University, Belfast, North Ireland, is on leave as a staff member of the Geophysics Corporation of America, Bedford, Massachusetts.

Sydney Kaye, associate professor of legal medicine at the Medical College of Virginia, has resigned to accept the newly created position of professor of toxicology at the University of Puerto Rico's School of Medicine.