News of Science

Solar Distillation of Saline Water

Progress in the development of economical means of utilizing solar energy to convert salt water to fresh water in arid regions has been reported by the U.S. Department of the Interior. Research conducted by the department's Office of Saline Water since 1953 has shown that the use of heat from the sun to distill salt water has promise of economical large-scale fresh production. This is particularly true in the Southwest, where solar intensities are high, provided that simple stills can be made inexpensively enough, or the productive capacity of stills greatly increased, or both.

One means of increasing output is by multiple-effect distillation in which the heat absorbed in evaporation is recaptured in condensation and made to evaporate additional water, according to David S. Jenkins, director of the Office of Saline Water. Maria Telkes of New York University, working under a contract with the department, has developed a ten-effect solar still based on an earlier patent by Defoe Ginnings of the National Bureau of Standards. The device requires no expensive mechanical equipment and, from a given area exposed to sunshine, can produce about 6 times as much fresh water as a single still.

The principle can be used also with other forms of low-grade heat. Telkes has also been developing an improved tilted single-stage solar still for the department. Larger units and field testing now are needed on both types.

A possible way to reduce costs is to use plastic materials with specially designed properties. Departmental studies conducted through the Bjorksten Research Laboratories of Madison, Wis., have shown that plastic materials are feasible, provided that transparent materials which can withstand at least 3 years of outdoor weathering can be developed. Many materials have been tested but without success.

Recently, however, several new types of materials have become available in experimental quantities from the Du Pont Company. For example, it is reported that a new type of transparent film of tetrafluorethylene resin will withstand an estimated 10 years of outdoor exposures.

A solar-still design envisioning a heavy, black plastic base or evaporation pan, with a transparent plastic film supported only by slightly increased air pressure—without rigid supports—has been proposed by Du Pont. The sun's energy is trapped between the plastic base and the transparent canopy.

Under an agreement signed recently between the Department of the Interior and the Du Pont Company, the company will provide materials for construction of prototype stills approximately 2 feet wide and 100 feet long for experimental tests on salt-water conversion. The stills will be constructed and operated by the Federal Government.

In addition, the company will supply to the department or a few of its cooperators, which the department may designate, small samples of the film for small-scale laboratory tests on solar stills. Cooperators include the governments of Spain, Morocco, and Algeria.

Another means of reducing costs of simple solar stills is being developed for the department by George O. G. Lof of Denver, Colo. A roof-type still built directly on the ground, eliminating some framing and insulation, is expected to operate at night from heat stored in the ground during the day. An experimental still covering about one-tenth of an acre at the seashore location is being prepared for the study of night radiation. The Du Pont and Telkes stills also will be tested at the seashore location.

AAAS Theobald Smith Award

Oscar Touster, associate professor of biochemistry at the Vanderbilt University School of Medicine, is the winner of the 1956 AAAS Theobald Smith award in the medical sciences. This annual award, which was established in 1936 by Eli Lilly and Company, consists of $1000, a bronze medal, all travel expenses to and from the AAAS annual meeting, and all expenses at the meeting for the week of its duration, 26–30 Dec. This year's presentation will be made by Irvine H. Page, director of research for the Cleveland Clinic and chairman of the AAAS section on medical sciences, at 9 A.M. on 30 Dec. in the ballroom of the Hotel Statler, New York.

The award is given for "demonstrated research in the field of the medical sciences, taking into consideration independence of thought and originality." The recipient must be a U.S. citizen who is less than 35 years of age on 1 Jan. of the year in which the award is to be made.

Touster's major and most recent work has been on the underlying cause of congenital pentosuria, a rare genetically determined metabolic abnormality in human beings that is characterized by the excretion of large amounts of a rare pentose sugar called L-xylulose. Years ago the condition was frequently mistaken for diabetes.

Using refined analytic techniques, Touster was able to detect the production of the pentose sugar in guinea pigs and in apparently healthy normal human beings. Since the then current knowledge of biochemistry could not explain the widespread ability to form the sugar, Touster further investigated its metabolism and discovered liver enzymes whose actions provide an understanding of the normal metabolic pathway of the sugar and an insight into the enzymatic deficiency in pentosuric individuals. The results of Touster's research on pentosuria, as well as on bacterial metabolism and organic chemistry, have been published in articles in medical and chemical journals and in contributions to scientific books.

Radiationproof Photosensitive Plastic

The Army Signal Corps has announced the development of a photosensitive plastic that can be used for printing photographs in areas affected by atomic radiation. The new process is almost unaffected by gamma rays. The pictures are clear, durable, waterproof, and stronger than ordinary paper prints, which tend to fog under nuclear radiation.

The process, originated by the Ferro Chemical Company of Bedford, Ohio, employs a minimum of equipment. No water, chemicals, or darkroom are needed. A sun lamp takes the place of an exposure light, and an oven replaces trays of hyposulfite and developing solutions. Printing of the picture is accomplished in 5 minutes.

Ten Unitarian Church Services Coordinated with AAAS Meeting

In recognition of the 123rd annual meeting of the AAAS in New York, ten Unitarian churches in the metropolitan area will observe "Religion and Science Sunday" on 30 Dec. Ministers will address their congregations on the cordial relations between liberal religion and sci-

ence and indicate the lack of conflict between progressive religion and the spirit of contemporary science.

Churches taking part in the observance follow: the Community Church, Manhattan [*Science* **124**, 1196 (14 Dec. 1956)]; the Unitarian Church of All Souls, Manhattan; the First Unitarian Church, Flushing, Queens; the Hollis Unitarian Church, Queens; the Unitarian Church of Staten Island, Richmond; the First Unitarian Church, Yonkers; the North Shore Unitarian Society, Plandome; the Unity Church, Montclair, N.J.; the First Unitarian Society, Plainfield, N.J., and the First Unitarian Church, Trenton, N.J.

AAAS Election Results

Yesterday at the annual meeting of the AAAS it was announced that Wallace R. Brode is the 1957 president-elect of the association. Brode, who is associate director of the National Bureau of Standards, was first elected to the AAAS board of directors in 1953.

George W. Beadle, chairman of the division of biology at California Institute of Technology, is succeeded as retiring president of the association by Paul B. Sears, chairman of the Yale Conservation Program at Yale University. Alan T. Waterman, director of the National Science Foundation, is a new member of the board, and Paul Klopsteg, associate director of NSF, was reelected to membership.

Industrial Use of Agricultural Products

Appointment of an 11-member Oilseeds and Animal Fats Task Group to advise the President's bipartisan Commission on Increased Industrial Use of Agricultural Products has been announced. The first meeting of the task group took place in Chicago, Ill., on 28 Nov., according to the group's chairman, James C. Konen, vice president in charge of research, Archer-Daniels-Midland Company, Minneapolis, Minn. The task group will review the technical economic position of oilseeds and animal fats. On the basis of this study, the group will submit an advisory report for consideration by the commission in making its recommendations to Congress concerning legislation designed to increase industrial uses of farm products.

Another of the commission's advisory groups, the nine-member New and Special Crops Task Group, held its first session in Washington, D.C., 15–16 Nov. At the meeting, emphasis was placed on new and special crops that could be grown on acreage customarily used for wheat and cotton—two of the nation's major surplus crops. The task group underlined the need for analyzing the chemical makeup of new crops that yield fiber, protein, oils, drugs, gums, and other carbohydrates to determine how they may be used industrially.

Hungary

■ On Human Rights Day the governing board of the National Research Council of the National Academy of Sciences announced that its resources were available to refugee Hungarian scientists who wish to find opportunities to continue their scientific work. The Academy–Research Council also will make every effort to aid the many academic and scientific institutions and governmental agencies that desire to assist Hungarian scholars who have been denied the opportunity to continue their work in freedom.

By unanimous resolution the NRC board also paid high tribute to those scientists still remaining in Hungary who have shown such courageous devotion to the principles and freedom necessary for the furtherance of science. In addition, the board endorsed the resolutions adopted recently by its mother academy and by the American Philosophical Society. The NAS resolution follows:

> "Those members of the National Academy of Sciences of the United States of America present at a meeting in Washington unite in expressing their profound admiration and sympathy to fellow scientists in Hungary and to all the men and women of that nation who have demonstrated their love of liberty with sacrificial devotion during the tragic events of the past few weeks. American scientists look forward with hope to a time when their Hungarian colleagues, freed from external oppression, will be able to join fully in the international exchange of information, discussion and encouragement which is essential to the progress of science."

The statement adopted by the American Philosophical Society read:

> "The American Philosophical Society regards with greatest concern the events of recent weeks in Hungary. The members of the Society, assembled in Executive Session in Philadelphia, declare the greatest admiration for the people of Hungary in their defense of freedom and express profound sympathy for the tragic suffering which they have so resolutely endured. The members of the Society look forward with confidence to the time when free intellectual exchange with the Hungarian people and between all the peoples of the earth will be firmly re-established."

Ford Foundation and Fund for Education Combined

The Ford Foundation has announced that its activities in the field of education and those of the Fund for the Advancement of Education will be combined after 1 Jan. Clarence H. Faust, president of the fund, will become a vice president of the foundation, and as such will be in charge of all educational programs. He will continue as president of the fund during the period of expenditure of the remainder of the $25 million granted to the fund by the foundation in 1954.

William McPeak, vice president of the foundation, will give up his supervision of the foundation's educational program. He will continue to be in charge of behavioral science and the humanities and will undertake the development of new programs.

Faust will draw on the officers and staff of the fund to work on the educational program of the foundation during the transitional period. Directors of the fund will continue to exercise full responsibility for the fund's program, and they will also advise the foundation on the concurrent development of the foundation's over-all program in education.

Index to Science

Following the practice started with volume 123, the volume index to *Science* will henceforth appear in the fourth issue of the month following the close of a volume. The index for volume 124, July–December 1956, will appear in the issue of 25 Jan. 1957.

News Briefs

■ On 6 Jan. CBS Television will introduce a new weekly program, "Odyssey," the story of man's pursuits from prehistoric times onward. In cooperation with the world's museums, the program will deal with fields as varied as art, literature, music, geology, zoology, industry, medicine, metaphysics, and the circus. "Odyssey" will be produced by Charles Romine for CBS Public Affairs, in cooperation with the American Association of Museums. Associate producers are Ted Sack and Frank De Felitta.

■ The U.S. Army Signal Corps and the Bell Telephone System have opened an important communications link between the United States and the Territory of Alaska, an underwater telephone cable system stretching some 1250 miles from Port Angeles, Washington, to Skagway, Alaska. Hatfield Chilson, Assistant Secretary of Interior, and B. Frank Heintzleman, Governor of Alaska, talked together on the first call over the new system. The