Although usually the rates of cultural and social change are slow, planned action, particularly if it is in harmony with ongoing changes, may serve to accelerate them. Although no single measure is likely to restore the balance between labor supply and demand in the engineering profession, utilization of the potential source of womanpower offers one of the most effective solutions to a problem which is likely to persist for many years to come.

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News of Science

Device for Measuring Radiation

A new and relatively inexpensive device for world-wide comparisons of x-ray measurements, intended eventually to contribute to uniform standards and to help control the medical irradiation of populations, will soon be made generally available through the cooperation of the United Nations Educational, Scientific and Cultural Organization, the World Health Organization, and the U.S. National Bureau of Standards.

The radiation measurement project received the endorsement of the United Nations Scientific Committee on the Effects of Atomic Radiation at its session in New York in October 1956. The committee found that diagnostic radiology and radiotherapy now constitute in some countries the principal source of artificial radiation, in amounts approximately equal to natural radiation. The fact that many countries have no primary standards of x-ray measurement was recognized as a serious problem after studies of radiation demonstrated that populations may be subjected to more radiation from medical radiology than from fallout or effects of nuclear waste disposals.

Not only do many countries have no primary standards, but they have had no opportunity to check the standards they use against the primary standards in use in scientifically more advanced countries. To meet this problem, the National Bureau of Standards in Washington, D.C., has developed an ionization chamber and accessory equipment that UNESCO and WHO will circulate to countries that request it. Specialists in the operation of the instruments will also be provided. The National Bureau of Standards plans to have the equipment available for circulation very shortly.

UNESCO's participation in the program was approved by the organization's General Conference at its recent meeting in New Delhi, and UNESCO plans to finance the use of the equipment in countries requesting it under the general program of aid to member states. The cost of the equipment itself is small—on the order of $2500—and UNESCO now plans to purchase a second set from the National Bureau of Standards. In that case, one set probably could be sent to Asia for circulation among nations of that area.

Public Health Training

The Public Health Service has announced that it is ready to accept applications from public health workers for graduate or specialized training for the 1957–58 academic year under the special training legislation voted by Congress last July.

In the President's budget, submitted 16 Jan., $2 million is requested for the program in fiscal year 1958 to give additional training to physicians, sanitary engineers, nurses and other professional people who are now working in public health or who are interested in entering this field. Congress voted $1 million for the first year of operation of the program, and more than 300 traineeships have been awarded, either directly by the Public Health Service or through grants to the training institutions. This includes 16 physicians, 150 nurses, 33 health educators, 25 sanitary engineers, 26 sanitarians, 11 laboratory workers, 10 dentists, and 9 veterinarians.

The traineeships provide, in addition to academic costs and fees, stipends covering living expenses for the trainee and legal dependents. Applicants are urged to submit their applications *by 1 Apr.*, if possible. Information regarding the program is being made available by the service's Bureau of State Services, Division of General Health Services.

Maya Excavation

Gordon F. Ekholm, associate curator of archeology at the American Museum of Natural History, has left for Tabasco, Mexico, where he will lead the second phase of an archeological study of the ancient Maya that is being sponsored by the museum. He plans to continue work begun last spring at Comalcalco in southeastern Mexico. This city, an important center of the pre-Colombian world, thrived from about A.D. 500 to 900. There are some partially preserved buildings still standing at the site but most of the constructions that once existed have been reduced to mounds of earth.

The work at Comalcalco is part of a long-range project to learn more about western Tabasco and the whole Isthmus of Tehuantipec region, an area of potentially great importance to Middle American archeology. The site at Comalcalco is the most westerly of the big Maya cities dotting southeast Mexico and Guatemala and, therefore, represents the farthest penetration of Mayan civilization in that direction. It also enjoys the distinction of being the only archeological site in the New World built entirely of fired brick.

During the first phase of the investigations, carried on last spring, two important buildings were excavated: a palace and a temple. In addition 1700 pounds of pottery, fragments of stucco sculpture,

and incised bricks were taken back to the museum. This material has shown a good deal about the 400 years of Comalcalco's history and has provided information about changing styles in architecture and pottery.

Poland Resumes WHO Participation

The Government of the People's Republic of Poland resumed active membership in the World Health Organization on 1 Jan. Poland discontinued active participation in August 1950. Albania and Bulgaria have also recently resumed active participation in the work of the organization.

Member states that still remain inactive are Czechoslovakia, Hungary, Rumania, U.S.S.R., Ukrainian S.S.R., and Byelorussian S.S.R. In order to facilitate the return of inactive members, the World Health Assembly last year passed a resolution providing that contributions should be paid in full for the years during which countries participated actively in the work of the organization, and that for the inactive years a token payment of 5 percent of the amounts assessed should be required.

Cryotron

Dudley A. Buck, a graduate student and instructor in the Electrical Engineering Department at Massachusetts Institute of Technology, will receive the 1947 Browder J. Thompson memorial prize of the Institute of Radio Engineers for his development of the cryotron, a tiny device to replace transistors and tubes.

The cryotron is perhaps the first practical use of superconductivity—the ability of some metals to conduct current with no resistance at temperatures near absolute zero. In its simplest form, the cryotron consists of a straight piece of wire, around which another fine wire has been wound. A current in the straight wire can be controlled by a current in the winding, because the superconductivity of the straight wire is destroyed by the magnetic field associated with the current in the winding.

The first data-processing equipment in which the cryotron will be used is now being built at Arthur D. Little, Inc., with the cooperation of M.I.T. engineers. The instrument will use 215,000 cryotrons. A conventional computer to do the same job might require more than 50,000 vacuum tubes. Buck has pointed out that present experimental circuits suggest "that a large-scale digital computer can be made to occupy one cubic foot." This estimate, of course, does not include refrigeration and terminal equipment. Cryotrons will be kept at the necessary low temperatures by liquid helium, the boiling point of which is 4.2°F above absolute zero.

The simplicity of cryotrons makes possible their rapid manufacture by automatic factories. In operation, the consumption of electric power by cryotrons is very low. Though a cryotron can switch from one condition to another as rapidly as a transistor or vacuum tube, one disadvantage at present is the relatively slow speed with which the cryotron circuits switch electric currents among their many paths. Cryotrons today use wires of two rare metals, tantalum and niobium.

Research in Sex Problems

The Division of Medical Sciences of the National Academy of Sciences–National Research Council is accepting applications for grants-in-aid of research for consideration by the Committee for Research in Problems of Sex. This committee is concerned primarily with encouraging research on the mechanisms that control sexual behavior in animals and man. Proposals involving endocrinological, neurological, psychological, anthropological, phylogenetic, and genetic studies directed toward this objective are therefore invited. Requests will also be considered that deal with the physiology of reproduction or with related biological and biochemical fields.

Preliminary inquiries should be addressed to Room 309, Division of Medical Sciences, National Academy of Sciences–National Research Council, 2101 Constitution Ave., NW, Washington 25, D.C. Completed applications for 1957–58 should be postmarked *on or before 1 Apr.*

Gravity Awards

The Gravity Research Foundation has announced its 1957 program of awards for essays on gravity. Five awards will be made on 1 June for the best 1500-word essays on the possibilities of discovering: (i) some partial insulator, reflector, or absorber of gravity; (ii) some alloy or other substance, the atoms of which can be agitated or rearranged by gravity to throw off heat; or (iii) some other reasonable method of harnessing, controlling, or neutralizing gravity. The awards will be, in order, $1000, $300, $200, $150, and $100.

Essays must be received at the Gravity Research Foundation, New Boston, N.H., *before 15 Apr.* They will be accepted from anyone who is seriously interested in the application of gravity to practical uses for the benefit of humanity.

All essays must be typewritten in English on paper 11 by 8.5 inches, with two carbon copies. A title covering the area of thought expressed in the essay and a summary paragraph of 100 words or less should be submitted with the manuscript on a separate sheet. A short biographical sketch should also be enclosed.

World Health Day

The United States is joining with other nations in the observance of World Health Day on 7 Apr. Federal agencies this year will observe the theme "Food and health" in programs dealing with nutrition, food production and distribution, and food protection and sanitation. The theme will also be used to recruit young Americans for careers in nutritional and other food and health programs. Agencies participating include the Department of Health, Education, and Welfare, the Department of Agriculture, and the Department of State.

In cooperation with the National Citizens Committee for the World Health Organization, the government committee for World Health Day will also meet requests for material from industries and voluntary groups that plan to observe the day. Special kits of material will be prepared for this purpose. H. van Zile Hyde, chief of the Public Health Service's Division of International Health, is chairman of the interagency committee.

Cancer Society Fellowships

The American Cancer Society has announced that a limited number of fellowships in radiation therapy are offered in 1958–59 to graduates in medicine who have already received thorough basic training in the principles and practice of radiation therapy and who desire to spend additional periods of training in that specialty at certain clinics in the United Kingdom, the Scandinavian countries, and France. Fellowships may begin at any time mutually agreeable to the institution and the fellow. The deadline for receipt of applications is *15 Apr.*

The Cancer Society has also announced that its program of clinical fellowships will continue through the institutional year 1958–59, with fellowships commencing 1 July 1958. These awards are offered to institutions whose postgraduate training programs are approved by the Council on Medical Education and Hospitals of the American Medical Association. The grants offer graduates in medicine opportunities for postgraduate training, emphasizing diagnosis and treatment of cancer.

Applications from institutions must be