

Committee will promote contact and collaboration wherever possible between centres of industrial research or institutions and research workers; and facilitate co-operative research within British industry, with special reference to the needs of small-scale industries. Information on research questions will be provided by creating a liaison with appropriate reference libraries and technical and scientific institutions; and attention directed to the publications of professional, technical and scientific institutions, assistance being given where necessary in their distribution. The Committee will promote the compilation of general information on industrial research, particulars of organizations and the facilities available; and provide from time to time information for press and public on the achievements of British industrial research.

A Medical Nobel Institute in Sweden

THE Royal Caroline Institute (Kungl. Karolinska Medico-Kirurgiska Institutet), which is the medical school of Stockholm—the University of Stockholm (Stockholms Högskola) having no medical faculty—and is in charge of the medical Nobel Fund, has decided to build a Medical Nobel Institute for research in the three theoretical disciplines, anatomy, biochemistry and physiology. The new Institute will consist of three departments in one building to be erected on the premises of the new medical centre at Norrbacka in the north-west region of the city. The Biochemical Nobel Institute was founded in 1937 and is directed by Prof. Hugo Theorell. The physiological department will be a Neurophysiological Research Laboratory privately endowed in 1940 for Prof. Ragnar Granit, who will also be in charge of the new institute. The anatomical department will be associated with a new chair in cell research to be created for Dr. Torbjörn Caspersson.

Relation of Employment to an Economic System

A MEMORANDUM "Employment After the War" submitted by the Social Credit Co-ordinating Committee, Greno House, Swinton, Mexborough, Yorks (3d.), for the consideration of Sir William Beveridge, argues that full employment is not the right objective of an efficient economic system. The essential function of industry is to supply the goods and services which people require, and it is no part of the function of industry to deprive people of leisure or to keep them occupied in order to reduce the difficulties of Government. Social security, with freedom, can only be realized if we recognize, first, that production is no longer a major problem: the problem to-day is that of distributing the abundance of goods that can be produced. Further, money is the social mechanism for the distribution of goods: thirdly, science has so well succeeded in harnessing solar energy to the service of man that the need for human labour in industry has decreased and will continue to decrease progressively; and, lastly, the true purpose of employment is to provide goods and services for our use and not to provide people with incomes. The memorandum then briefly summarizes the Social Credit proposals: a national credit office; the institution of a scientific price discount; and the distribution of national dividends. These proposals are designed to deal with what is described as the real problem, which is not how to share out the hours of work available, but how to remove from unemployment its ugly concomitants of frustration and a low standard of living.

Institute of Medical Laboratory Technology

THE Institute of Medical Laboratory Technology, which was incorporated in November 1942, with registered offices at 308 Dewsbury Road, Wakefield, Yorks, has issued a memorandum and articles of association. All scientific workers will commend the objects of this Institute. As its secretary, Mr. S. J. Denyer, says, its formation "indicates the desire of the laboratory technician to meet the increased demands of his profession and to acquire the professional status already accorded to other scientific workers". The Institute incorporates the Pathological and Bacteriological Laboratory Assistants Association and takes over the publication of the *Laboratory Journal* and the *Monthly Bulletin* previously issued by that Association. To meet modern demands, the Institute requires an approved educational standard as one qualification for membership. Ordinary members or associates of the Pathological and Bacteriological Laboratory Assistants Association may become ordinary members of the Institute by application, but others must be elected; they must be not less than twenty years old, they must have had not less than three years experience in an approved pathological, bacteriological or chemical pathology laboratory and must pass an intermediate examination controlled by the Institute. Candidates for the associateship of the Institute must either hold the certificate of the parent Association in one subject or must, after completing five years training in an approved laboratory and attaining the age of twenty-two, pass the Institute's final examination in one subject. Fellows must have been registered members of the parent Association for ten or more years, or must hold that Association's certificates in two or more subjects; in either case they can become fellows by application. Others may be elected to fellowship if they are already associates of the Institute and either pass the Institute's final examination in two or more subjects or submit an acceptable thesis, and have also been associates of the Institute for ten or more years, inclusive of previous registered membership of the parent Association.

It will be clear that the associateship and the fellowship of the new Institute are not lightly acquired; and ordinary membership must itself command respect. This will give to the technicians in the laboratories concerned the status which they deserve, for without their willing help, their interest in the work and their devotion to it, many great discoveries would not have been made. It is good to know that members of the medical profession give willingly of their time to help to train these essential workers; every other kind of scientific worker will wish to do the same.

Smithsonian Institution: Annual Report

THE report of the Smithsonian Institution for the year ended June 30, 1942 (Washington, D.C.: Gov. Printing Office. 1.50 dollars), includes the report of the secretary together with the reports on the United States National Museum, the Bureau of American Ethnology, the International Exchange Service, the National Zoological Park, the Astrophysical Observatory, and the Division of Radiation and Organisms, together with a general appendix on the lines of that in the previous report. Referring to the war activities of the Institution, the secretary's report states that a War Committee has been constituted and a detailed roster prepared of the scientific staff, numbering

nearly a hundred, listing their geographical and specialized knowledge. From war agencies 460 requests for information have been received since the Pearl Harbour disaster, and the Institution is also serving as an important source of technical and geographical information. Together with the National Research Council, the American Council of Learned Societies, and the Social Science Research Council, the Institution has participated in the setting up of the Ethnogeographic Board to provide a central clearing house for information to army and navy intelligence and other war agencies in geography, languages and social sciences. An index of published photographs taken by scientific workers of the Institution in all parts of the world is being compiled.

The Institution has also undertaken the publication of a handbook of the Indians of South America, under the editorship of Dr. J. H. Seward, of the Bureau of American Ethnology, as well as of a list of the insects of South and Central America. Volume 6 of the *Annals of the Astrophysical Observatory*, covering its operations from 1920 to 1939, was published during the year and describes in detail the research on the variation of the sun's radiation. The Division of Radiation and Organisms, which was incorporated during the year as a branch of the Observatory, has continued its work on photosynthesis, plant growth and radiation, and the development of apparatus and methods. Experiments were continued on the factors that influence the changes in rates of respiration of plants, and work is in progress on the isolation and separation of two pigments that occur in dark-grown oat seedlings. The general appendix includes in the first place a statement "The 1914 Tests of the Langley 'Aerodrome'", by C. G. Abbot, which terminates the controversy between Dr. Orville Wright and the Institution. Among the original and unpublished papers in this appendix are those by J. A. Fleming on "The Sun and the Earth's Magnetic Field", E. P. Henderson and S. N. Perry on "Meteorites and their Metallic Constituents", and C. M. Packard on "Insect Enemies of our Cereal Crops".

Copper Conductors for Overhead Lines

In a paper read by Messrs. G. W. Preston and H. G. Taylor in London on April 12 before the Institution of Electrical Engineers, the creep of copper conductors and their initial non-elastic extension are considered in relation to their effect on sags and their compensation by an increase in erection tension as an alternative to pre-stressing. Information is given on the annealing characteristics of hard-drawn copper and copper-alloy conductors, with special reference to the effect of impurities in the metal, and maximum safe operating temperatures for such conductors are discussed, together with maximum permissible current loadings. Hollow copper conductors of various types for super-voltage lines are described, and the features of cadmium-copper conductors are dealt with in comparison with other types of high-tensile overhead conductor. Steel-reinforced copper conductors receive special attention, particularly in regard to the protection from corrosion of the steel wires, and results of a long-time investigation are given in full, with conclusions and recommendations. Copper-clad steel wires, their characteristics and use as reinforcement in copper conductors are discussed. Details are given of developments in the application of compressed

sleeve joints to copper and copper-alloy conductors, and suitable joints for cadmium-copper and steel-cored copper conductors are described and test results given.

New Products from Cellulose

ACCORDING to an annotation in the January issue of the *Anglo-Swedish Review*, the Swedish Cellulose Co. recently put on the market a wood-pulp product named 'Cellufix'; its manufacture requires the use of alkali, chlorine and alcohol, all of which are produced in Sweden. It is viscous, soluble in water at any temperature and so highly concentrated that a 3 per cent solution will yield a consistency equal to butter. It is odourless and tasteless, and its present main use is as wall-paper paste, as putty and for part of white-wash. 'Cellufix' is also used in textile mills as size and for other purposes. A specially purified quality of 'Cellufix' called 'Cellugel' is used in the food and chemical industries to give bulk to certain products and is also used as a substitute for glycerine.

Planetaria of the World

MR. ROY K. MARSHALL continues his articles on this subject in the December and January issues of *Sky and Telescope* (see NATURE, 153, 191; Feb. 12, 1944) with a very full description of the Fels Planetarium at the Franklin Institute, Philadelphia. He includes a few photographs of other planetaria also. The technical details of the instrument will prove interesting to many readers. The most complicated feature of the planetarium is the mechanism which reproduces the motions of the sun, moon and planets, and it is remarkable that comparatively few visitors make any inquiries about this. Five projectors are in the sun cage, and two of these are for a glow of light or aureole around the sun's image, simulating the strong scattering of light seen in the neighbourhood of the sun. One is for the zodiacal light, and a pair for the glow of the gegenschein. The precession of the equinoxes is reproduced in the planetarium by rotating the dumbbell portion of the instrument about an axis, and in 75 seconds it is possible to pass through the whole cycle of nearly 26,000 years. On certain occasions demonstrations of a highly dramatic nature have been presented—including a trip to the moon during which very realistic reproductions of lunar craters are produced. In the words of Dr. Philip Fox, describing the first Adler Planetarium, it is "not a trivial plaything, a mimic aping firmament, but the heavens portrayed in great dignity and splendour, dynamic, inspiring, in a way that dispels the mystery but retains the majesty".

Rainfall in the Nile Basin

A SYNOPSIS of rainfall statistics for the Nile Basin up to 1937 forms a valuable volume ("The Nile Basin", 6. By H. E. Hurst and R. P. Black. Physical Dept. Paper No. 43. Ministry of Public Works, Egypt. Cairo, 1943. 10s.). It includes figures from the Sudan, Uganda, Kenya, Tanganyika and the Belgian Congo. There are also figures, though admittedly incomplete, from Abyssinia. The stations are grouped by countries, and within each group are arranged by latitude from north to south. Statistics just outside the limits of the Nile basin are included. As a rule, stations with less than five years records are omitted. Figures from about four hundred stations make it possible to give a large-scale map of the total annual rainfall