

IN order to popularize the metric system, the introduction of which into Russia was provided for by a decree of the Council of Commissaries in 1918, an order has been issued making mandatory the sale of fresh milk in $\frac{1}{4}$, $\frac{1}{2}$ and 1 liter containers, commencing January 1, 1924, and the sale of products widely used by the population in standard packages, in metric units, is now being organized according to *Economic Life*, Moscow. The decree for the introduction of the metric system was to have become effective January 1, 1922, but the date was subsequently deferred with the understanding that the transition to metric weights and measures by all state institutions and private organizations and persons should be carried out gradually and completed by January 1, 1927. Certain industries (textile, leather, sugar, tobacco, starch and glucose, oil-crushing, tea and coffee, chemical, confectionery, canning and yeast) adopted the metric system by January 1, 1924; the leather goods trade by June 1, and the electrical industry will adopt it by November. Metric units should be used in all technical plans and specifications, commencing October 1, 1925, and in all credit and banking accounting, as well as in budgetary specifications, after October 1, 1926. The number of scales and balances of various types now in use in the entire territory of the Soviet Union is estimated at 1,500,000, including 70 per cent. of even scales, which do not require any adjustment for metric weights; 20 per cent. of decimal beam scales; 8 per cent. of centimal lever scales, and 2 per cent. of miscellaneous devices. Thus only about 450,000 balances will have to be remodeled for the metric system. The total cost of the introduction of the metric system, including the casting of 30,000 tons of weights, popularization and instruction, is estimated at 11,200,000 gold rubles.

UNIVERSITY AND EDUCATIONAL NOTES

THE University of Wisconsin will receive \$350,000 by the bequest of Thomas E. Brittingham.

GROUND was broken on June 17 for the State University of Iowa's new \$4,500,000 medical building, made possible by the state appropriating funds to equal a gift of the Rockefeller Foundation.

PROFESSOR E. C. COKER, head of the department of mathematics of Winthrop College, has been called to the chair of astronomy and mathematics at the University of South Carolina.

MISS LILA SANDS, Ph.D. (Nebraska, '24), has been appointed an instructor in the department of chemistry at the University of Arizona.

DR. RICHARD HARTSHORNE, Ph.D. (Chicago, '24), has been appointed instructor in geography at the University of Minnesota.

CYRIL BATHO, D.Sc., associate professor of applied mechanics and hydraulics at McGill University, has been appointed professor of civil engineering at Birmingham University in place of Professor F. C. Lea, D.Sc., who has resigned.

PROFESSOR SYDNEY CHAPMAN, professor of mathematics and natural philosophy in the University of Manchester, has accepted the invitation of the governing body of the Imperial College of Science and Technology to undertake the chief professorship of mathematics, beginning in September, in succession to Professor A. N. Whitehead, who has been appointed to the chair of philosophy at Harvard University.

DISCUSSION AND CORRESPONDENCE

CORROSION OF POLISHED METAL SURFACES BY ULTRA VIOLET RADIATION

IN previous investigations of the reflecting power of metals no mention is made of the corrosion of polished surfaces by the action of ultra violet radiation which seems to accelerate atmospheric corrosion.

In the course of an investigation of the ultra violet reflecting power of metals and of sulphides having a high metallic lustre Mr. C. W. Hughes and I have observed that portions of the surface which are exposed to ultra violet light become tarnished, while the unexposed parts remain bright. This corrosion is best perceived by breathing lightly upon the surface. Its effect is to perceptibly lower the reflecting power in the spectral region of wave lengths less than 350μ .

W. W. COBLENTZ

LOWELL OBSERVATORY

A QUESTION OF CLASSIFICATION

IN view of the extremely up-to-date attitude of the geneticists, cytologists and taxonomists, whose conclusions are changing almost from day to day, it is extraordinary to note how excessively conservative they seem to be when dealing with the larger questions of plant classification. In many current textbooks the same primary divisions, or sub-kingdoms, are accepted that were in vogue more than half a century ago. One is inclined to ask whether this is the result of ignorance or merely of indifference.

While it is true that a separation of the plant kingdom into properly coordinated primary divisions is by no means a simple matter, it is rather depressing to find, even in the latest texts,¹ excellent in many respects, no effort at the presentation of a classification more in keeping with our present knowledge of plant relationships. To find that great omnium gatherum of unrelated plant-groups, the

¹ For example, Sinnott's "Botany, Principles and Problems," recently reviewed in SCIENCE.

thallophytes, accepted as a single primary division or sub-kingdom, while the undoubtedly homogeneous group of embryophytes—the Archegoniates and seed-plants—is split into three sub-kingdoms, each presumably coordinate with the whole aggregation of thallophytes, makes one wonder by what process of reasoning the authors have perpetuated such an unscientific and outgrown system of classification.

It is generally agreed that comparative morphology, and especially the structure of the reproductive parts, is the safest clue to relationships upon which a scientific classification must rest. In the book referred to² the following passage occurs: "This group (Anthocerotales) has always been of particular interest. . . as suggesting a possible connection between bryophytes and those higher plants (pteridophytes) in which the sporophyte is an independent individual." But a few pages further on (p. 325), the astonishing statement is made, "In passing from the bryophytes to the pteridophytes . . . we cross the widest gap which exists in the continuity of the plant-kingdom!"

How is the student to reconcile such an obvious contradiction, and how is the instructor to justify a system which teaches that a bacterium and a giant kelp are more closely related than a liverwort and a fern, although the two latter agree in the minute details of the essential structures of both their sexual and non-sexual reproduction? Either comparative morphology has no meaning, or the divorce of the two divisions of the archegoniates is absolutely unwarranted.

It would be very gratifying if some of the defenders of this, to the writer quite incomprehensible, view would explain *in detail* the reasons for the faith that is in them.

STANFORD UNIVERSITY

DOUGLAS HOUGHTON CAMPBELL

CATALOGUE OF PUBLISHED BIBLIOGRAPHIES IN GEOLOGY 1896-1920¹

THE publication of this noteworthy catalogue of bibliographies as No. 36 of the bulletins of the National Research Council is a further extension of the council's efforts to supply bibliographic assistance to the research workers of the country. Previous bulletins have contained similar lists covering periodical bibliographies and abstracts, and the present issue is the first devoted to a single subject. Like the earlier publication the present volume is not a bibliography of geology, but simply a catalogue of published geological bibliographies. The project was undertaken for the Research Information Service

² Page 319.

¹ Compiled by Edward B. Mathews, National Research Council, Washington, 1923, 228 pages. Price, \$2.50.

and the Division of Geology and Geography, National Research Council, and it is hoped that the council is planning to issue similar catalogues for the other sciences.

The catalogue which Professor Mathews has prepared is practically a continuation of DeMargerie's classic *Catalogue des Bibliographies Géologiques*, issued under the auspices of the International Geological Congress in 1896, containing references to 1895. The present work covers the succeeding 25 year period and embraces 3,699 titles arranged alphabetically by subject. These are divided into three groups or categories, general, special and personal. The first group is made up of a list which deals with publications of interest to geologists, but no attempt has been made to include such works as "Révue Bibliographique Universelle," "Reader's Guide to Periodical Literature," and other bibliographical aids, well known to the librarians and bibliographers. In the second group, only one master entry with cross references has been made, and its choice has been determined by the major interest underlying the compilation of the bibliography. The motive has been to place the major entry where it would most probably be sought, and the cross references where they might be serviceable. The third group includes "Personal Bibliographies" and "Necrologies," with attached bibliographies of geologists, mineralogists and paleontologists. The format of the references, while lacking many details dear to the librarian, contains all that is essential to lead the research worker to the available material.

Although the catalogue may prove incomplete as an exhaustive list of foreign bibliographies, it seems to include practically everything dealing with American geological literature available to American geologists. It should save both time and possible oversight of existing information for those in geological research. The National Research Council is to be commended for undertaking the program of preparing such helps for the research worker and also the compiler with his collaborator, Miss Grace E. Reed, for the thorough manner in which they have covered the literature scattered through a thousand serials.

JAMES H. HANCE

URBANA, ILLINOIS

THE NET ENERGY CONCEPTION

IN SCIENCE for April 18, 1924, Dr. E. B. Forbes quotes a paper read by him at a recent meeting of the American Society of Animal Production and a resolution passed unanimously by that society. The present writer dissents from a good deal that is con-