Expressing the opinion that *Pithecanthropus* and *Sinanthropus* can, at best, be regarded as no more than racially distinct, Dr. Weidenreich is sharply critical, justifiably so in the eyes of this reviewer, on the inadequacy of our present nomenclature in relation to the taxonomy of the Hominidae. Obviously it demands revision. He also argues on the basis of the Choukoutien femur fragments that the famed Trinil thigh bone can not possibly represent the same individual as the *Pithecanthropus* calvarium. In addition he reaffirms his belief in the Mongoloid affinities of *Sinanthropus*.

Irrespective of the eventual settlement of some of these perennial and favorite subjects of debate, the value of Dr. Weidenreich's contributions upon the subject of fossil man can not be overemphasized. He has been as prompt as is consistent with scientific accuracy in issuing reports; in wealth of anatomical detail and comparison with other fossil forms, his studies have lifted human paleontology to a new level of attainment. In all these matters the present monograph maintains the same high standard. One hopes that further publications may be undertaken here in the United States and that the exigencies of war will not completely interrupt, at least in terms of laboratory study, the intensive exploitation of the most remarkable body of material yet acquired on the human history of the earlier Pleistocene.

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WATER-SUBSTANCE

Properties of Ordinary Water-Substance. American Chemical Society Monograph. By N. ERNEST DORSEY. xxiv + 673 pp., 13 figs., 289 tables. New York: Reinhold Publishing Company. 1940.

THIS book assembles all the physical constants of ordinary water-substance (excluding isotopes). Never before have they been gathered into one volume. Of course, those who need to use such constants know already that this book is indispensable, and need not be told what a masterpiece it is; but it has a wider usefulness which should be pointed out. Water is of interest not only to physicists, chemists and engineers. It is one of the fundamental substances of the universe, just as the ancients suspected. Any one who doubts this fact is referred to Dr. Dorsey's classic as proof.

This book of tables, so exhaustive, so meticulously assembled, compared, recomputed and revised (which a veteran of the National Bureau of Standards could be depended upon to produce), can be studied as a yardstick of physical science. Lincoln once explained to a jury what the word "demonstrate" meant. He said he looked the word up in the dictionary and found "to demonstrate, as a proposition in Euclid." So he got a copy of Euclid and by the time he had finished it he understood what "demonstrate" meant.

Now too many who have never had much discipline in physics are being swept off their feet by much modern jargon, which impresses them about as the squabbles of the medieval schoolmen. Too many fifth-columnists against science are exploiting this confusion to undermine public faith in the facts of physics, very often with funds exploited from scientific discovery. A perusal of this book, checking up a few of the sources, can be depended upon to produce a healthy respect for the reality of science. Thus, it provides a vista of the anatomy of science which should be viewed by every college student.

After carefully defining symbols and units, the energy constants for the synthesis and dissociation of water are presented. Then single-phase systems, water vapor, liquid water and ice, and finally multiple-phase systems and phase transition are covered in over 600 pages of tables. Each table is explained briefly, and after each are given the references to the sources of the data; but to present them in comparable form an immense amount of recomputation has been necessary, often revealing and correcting errors in previous compilations.

The purpose of these tables has been to provide the inexpert with the data he may need, explaining the formulas and methods on which they are based, and giving the means of more detailed study when desired. Any one interested, therefore, can find out immediately the status of the facts up to 1938, and search the literature himself for more recent data. The book is a monument to its author, its institution, and to the myriad devoted workers whose careful labors are assembled.

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REPORTS

THE ANNUAL REPORT OF THE DIRECTOR OF THE NEW YORK BOTANICAL GARDEN

THE report of Dr. William J. Robbins, of the New York Botanical Garden, reviewing the four years of accomplishment of the garden since 1937, when he became director, was presented at the annual meeting of the board in January. He stated that, even though war might modify and curtail activities, the institution

would, he hoped, "continue to make most effective use of those facilities and funds at our disposal, regarding them as a public trust to be used for the benefit of the public."

Fifteen men, or fourteen per cent. of those employed by the garden, are already serving with the Army and Navy, and more are expected to go. Besides this direct participation in the war, the garden is aiding in many ways in the present emergency. Dr. Robbins then described the new "victory course," in vegetable gardening, one of which is given in cooperation with *The New York Times*. Both afternoon and evening classes are to be given, a three-day short course was offered and a demonstration course in vegetable garden management. The garden will maintain a model vegetable garden out-of-doors during the spring, summer and early fall.

For the relief of present conditions in this country, the garden furnishes information on plants for industries which are suffering the loss of materials through the war.

While the garden has kept strictly within its budget during the past four years, Dr. Robbins pointed out that since its establishment and the construction, around 1900, of the main buildings, no period has witnessed such a marked improvement in material facilities as in the years since 1937. Also, notable horticultural accomplishments can be recorded, and there is evidence on every hand of greater public interest and increased service to the public. He mentioned particularly the following accomplishments:

The number of hardy trees and shrubs in the permanent collections has been doubled.

The number of kinds of plants now cultivated regularly at the Garden is more than 12,000.

The educational program lately initiated and developed attracted more than 400 students last year.

Attendance at the free lectures given on Saturday afternoons has more than doubled (increasing from 3,060 in 1937 to 7,000 in 1941).

Subscriptions to the Garden's monthly journal have grown from 75 to nearly 700 in the past three years.

Most of the conservatory displays have been replanted in naturalistic fashion. Also, the main conservatories were almost entirely rebuilt. (They were first constructed 40 years before.)

The Garden's 280 acres were completely surrounded by a fence for the first time.

Much reconstruction was done in the Museum Building, including installation of a reception room for members.

Considerable new construction was added to improve the facilities for growing plants.

Arrangements for a new base plan for the future development of the garden have been completed. Major Gilmore Clarke is now working on the plan, which has been made possible through the generosity of Mrs. Harold I. Pratt, a member of the Board of Managers. The fencing of the grounds in 1940 has made necessary a number of changes in landscaping and in traffic routing.

Accomplishments of the year 1941 include:

Beginning of construction of a walled experimental garden for the use of members of the scientific staff.

Receipt of many thousands of plants as gifts, a number of them extremely rare, and among them the Forster collection of nearly 10,000 orchids valued at $75,000; 2,000 cactus plants from the Government of Mexico; and a total of 4,000 bulbs, orchids and other plants from two individual donors.

Nearly 50,000 individual plants set out (chiefly in front of the Main Conservatories and the Museum Building) for bedding effects in the spring and summer. These included 10,000 tulips saved from the display of the previous year, which had been a gift of the Holland Bulb Industries.

More than 4,000 shrubs planted on the grounds, including large numbers of rhododendrons, flowering cherries, barberries, lilacs, evergreens and other ornamentals. New labels required for these and other plants in cultivation at the Botanical Garden during the year totaled more than 5,400. Of these 49 were of the informational type, placed mostly beside plants of economic usefulness.

Addition of 36,747 herbarium specimens to the scientific collections, bringing the total of this important reference collection of preserved plants to 2,056,296 specimens, comprising the largest herbarium under one management in the United States.

Addition of books to bring the total bound volumes in the library close to the 50,000 mark.

Officers of the garden, all reelected for the current year, are: Joseph R. Swan, *President;* Henry De Forest Baldwin and John L. Merrill, *Vice-presidents;* Arthur M. Anderson, *Treasurer;* and Henry de la Montagne, *Secretary.*

SPECIAL ARTICLES

NARCOTIC POTENCY OF BIURETS CONTAINING PIPERIDINE

HILL and Degnan[1] noted that 1-diethylacetyle-5,5-cyclopentamethylene biuret has hypnotic properties and comparatively low toxicity. Following a different chemical procedure than previously employed, 4 additional biurets have been synthesized.[2] These are:

[1] A. J. Hill and W. M. Degnan, *Jour. Amer. Chem. Soc.*, 62: 1595, 1940.

[2] C. H. Ch'eng and Peter P. T. Sah, in preparation.