

fact that inherent earth-heat has always been and will continue to be a controlling factor in terrestrial phenomena, Manson's hypothesis as to the cause of the ice age may now, perhaps, be said to be demonstrated as a true theory.

Astronomical observations, for absolute parallax of the fixed stars, when made from the surface of a heat-radiating body revolving about another *central* heat-radiating body, are so influenced as to cause the stars to appear to be more distant than they really are. The effect is similar to the case which I have already treated in No. 3935 of the *Astronomische Nachrichten*, issued March 19, 1904.

As will be demonstrated later on, the evidence seems to be almost conclusive that our now reduced sun is the parent body of both the sidereal and the solar systems; the former created by one process simultaneously going on with the creation of the latter by a largely different action of the same forces of nature.

J. M. SCHAEBERLE

ANN ARBOR,
December 25, 1907

PROGRESSUS REI BOTANICÆ

It may not be amiss to call the attention of botanical workers to the very excellent summary of the present status of paleobotany from the pens of Professors Scott, Zeiller and Laurent which is contained in the first two volumes of the "Progressus Rei Botanicae" published by the International Association of Botanists under the supervision of Dr. J. P. Lotsy, of Leiden.

There will no longer be any excuse for the lamentable ignorance, too often displayed by botanists, of the striking contributions of paleobotany to the progress of botany.

Professor Scott's article, the first to appear and the most extensive, is entitled "The Present Position of Palæozoic Botany,"¹ and briefly discusses the great plant groups of the Paleozoic, chiefly from the viewpoint of morphology and phylogeny. The quickened interest caused by the recent discoveries of seed-bearing among the fern-like plants and the actual proof of the fern ancestry of at least

the cycads among the gymnosperms will serve, no doubt, to save this paper from neglect.

The second article, by Professor Laurent, of Marseilles, is entitled "Les Progrès de la Paléobotanique Angiospermique dans le dernier décade,"² and may be said to treat of the botany of the Cenozoic age, since the floral Cenozoic commences with the dominance of angiosperms in the Mid-Cretaceous. This paper, while it leaves much to be desired, is a thoroughly good, if somewhat philosophical, discussion of angiospermous fossils. It does not go into details as much as would have been desirable and treats of principles rather than the available facts.

The third article, which has just appeared, is entitled "Les Progrès de la Paléobotanique de l'ère des Gymnospermes,"³ thus roughly corresponding to the Mesozoic age and filling the gap between the contributions of Professors Scott and Laurent. This is a most excellent summary of the recent progress in the realm of Mesozoic botany and no discovery however small seems to have escaped Professor Zeiller's watchful interest. As this treats of the age when cycads and ginkgoes were dominant groups with a world-wide range and when the ancestors of our modern conifers and ferns make their appearance, it is one of very vital interest. Naturally the recent work of Wieland on the Bennettitaceæ receives considerable attention.

A regrettable feature, seemingly part of the plan of the editors, is the absence of citations, except as to authors' names, and the lack of any sort of bibliographies. While this is rendered unnecessary in the first instance by the Paleozoic bibliography compiled by Professor Arber and printed immediately following Professor Scott's paper, it is greatly missed in the other two papers. Paleobotanical workers may be expected to be familiar with the literature, but this is hardly the case with the rank and file of botanical workers to whom these articles are primarily addressed.

It is certainly a cause for congratulation and a distinct sign of progress that the International Association of Botanists recognizes

¹ Erster Band, zweites heft.

² Zweiter Band, erstes heft.

¹ Erster Band, erstes heft.

the importance of fossil plants by giving them so prominent a place in the early numbers of their publication.

EDWARD W. BERRY

JOHNS HOPKINS UNIVERSITY

*THE ROCKEFELLER INSTITUTE FOR
MEDICAL RESEARCH*

THE Rockefeller Institute for Medical Research purposes to award for the year 1908-1909 a limited number of scholarships and fellowships for work to be carried on in the laboratories of the institute in New York City, under the following conditions:

The scholarships and fellowships will be granted to assist investigations in experimental pathology, bacteriology, medical zoology, physiology and pharmacology, physiological and pathological chemistry and experimental surgery.

They are open to men and women who are properly qualified to undertake research work in any of the above mentioned subjects and are granted for one year.

The value of these scholarships and fellowships ranges from eight hundred to twelve hundred dollars each.

It is expected that holders of the scholarships and fellowships will devote their entire time to research.

Applications accompanied by proper credentials should be in the hands of the secretary of the Rockefeller Institute not later than April 1, 1908. The announcement of the appointments is made about May 15. The term of service begins preferably on October 1, but, by special arrangement, may be begun at another time.

L. EMMETT HOLT, M.D.,
Secretary

44 WEST 55TH STREET,
NEW YORK CITY

THE UNIVERSITY OF ILLINOIS

OPENING OF THE GRADUATE SCHOOL

THE formal opening of the Graduate School of the University of Illinois, which was held on February 4 and 5, marked a significant step in advance, not only for that institution,

but also for all the great universities of the middle west that owe their existence to the support of the state. Illinois has maintained a graduate school for some years, but last June the legislature of the state appropriated \$50,000 annually for the next two years for the development of the school. This is the first time in the history of American education that the people in their corporate capacity have put themselves on record as definitely in favor of that kind of work the graduate school is doing. This action means much in the development of higher scholarship and research in all those institutions that depend on public money for their income.

The opening address was made by Dr. G. Stanley Hall, president of Clark University, his subject being "The Educational Value and the Danger of University Research." Dr. Hall called attention to the immense sums that the national government has spent for investigations and to the results of greatest practical importance that have come from these investigations. Thus, he said, it is seen that original research pays and that the assertion that state universities should not and can not undertake graduate work is untenable.

The exercises were brought to a conclusion by Professor David Kinley, dean of the Graduate School, who spoke on the subject, "Democracy in Education." In his address Dean Kinley maintained that scholarship of the highest type was not only compatible with the best interests of a democracy, but necessary for its continued existence and advance.

Other speakers were Dean Andrew F. West, of Princeton University, whose subject was "The Personal Qualities of the Graduate Student and their Effect upon his Graduate Studies"; President Rammelkamp, of Illinois College; President McClelland, of Knox College; Robert W. Hunt, consulting engineer, of Chicago, and the Hon. William A. Smith, of the *Engineering Review*. Addresses were also made by Professors Noyes and Greenough, of the university faculty.

In connection with the exercises Dr. W. F. M. Goss was installed as dean of the College of Engineering. Professor Clifford Moore, of Harvard University, also delivered a series