in addition to some investigations of the authors themselves. The book follows the general plan of its predecessor, but no attempt is made to give it the form of a connected record. The earlier book must be in the hands of the reader in order that the results here given may be understood. The original papers are summarized under their proper headings, and references are made to the places of publication. The attempt has been made 'to reproduce the authors' main conclusions, and in most cases without comment or criticism.'

It is quite impossible to review a book of this kind; it must be read by the person interested. To show the value of the book to plant physiologists we may quote from the introductory chapter (pp. 8, 9): "These researches of Fenton's appear to us to have the most obvious and direct bearings upon the genetic relationships of the plant furfuroids, and not only *per se*. To give them their full significance we must recall the later researches of Brown and Morris, which establish that cane sugar is a primary or direct product of assimilation, and that starch, which had been assumed to be a species of universal *matière première,* is probably rather a general reserve for the elaborating work of the plant."

STUDIES OF THE STRUCTURE OF MOSSES.

WE have had occasion heretofore to call the attention of botanists, especially of non-professionals, to the help that may be obtained from certain special periodicals which are too often overlooked by the very persons who might receive benefit. It is all very well for the general student of science to read general journals, but he misses much if he does not read these special journals also. Thus there are many amateur botanists who are interested in the structure and classification of the mosses who would be greatly helped by reading the papers in the current numbers of the *Bryologist*. Dr. Grout, the editor, began some months ago a series of papers on the *peristome* of the moss fruit, and from those which have appeared we may judge as to the high value they will have for the beginner in bryology. Every one who has attempted to work the mosses has found out that this is one of the difficult structures to understand, and for the solitary student who has no handy and obliging professor to whom to appeal such help as is given in Dr. Grout's papers must prove invaluable.

THE IGNORING OF BEGINNERS AND AMATEURS.

WHEN we take up special journals like that referred to above, we are reminded that the beginner has a hard time of it now-a-days. Most journals ignore him—that is, journals of high standing and scientific reputation. One is sometimes tempted to wish that the large botanical journals might not forget that there are a great many people who are still beginners in botany, and that there always will be many beginners. The writer remembers when the American journals of botany were edited by beginners, for beginners, and he wonders whether they were not even more useful than now, for they offered to other beginners a means for 'getting up in the world,' which they scarcely do to-day. Then they were botanical ladders let down in the midst of students who wanted to learn, but now these ladders have been pulled away above the reach of the beginner. This is not always the fault of the editors. Not long ago an editor, in commenting upon the suggestion that this journal should contain more for beginners and amateurs, said that he had been criticised repeatedly by prominent scientific men for admitting even a very little of such elementary matter. Evidently some men who attain eminence forget the helps which enabled them to succeed, a state of mind which is certainly not to be commended. Let such repeat to themselves the text: 'For none of us liveth to himself.' No man should be impatient of the elementary work which is so necessary in order that beginners in science may attain to something.

CHARLES E. BESSEY.
THE UNIVERSITY OF NEBRASKA.

SCIENTIFIC NOTES AND NEWS.

M. BOUVIER has been elected a member of the Paris Academy of Sciences in the section of anatomy and zoology. Others who received

votes were MM. Houssay, Henneguy and R. Blanchard.

Dr. Florentino Ameghino has been appointed director of the National Museum of Buenos Aires as successor to the late Professor Charles Berg.

It is expected that Dr. W. W. Keen, professor of surgery at Jefferson Medical College, will reach Philadelphia by September 20, 1902, after having completed a tour of the world.

The condition of Dr. Charles Kendall Adams, the former president of the University of Wisconsin, who is ill at Redlands, Cal., is greatly improved.

We hear with regret that Dr. George Mann Richardson, professor of organic chemistry at Stanford University, is critically ill at Baltimore.

Mr. C. G. Pringle has been appointed keeper of the herbarium of the University of Vermont.

Mr. W. H. Evans, of the office of Experiment Stations, U. S. Department of Agriculture, has returned from Porto Rico, where he was in conference with Mr. F. D. Gardner, in charge of the Porto Rico Station, with reference to the selection of a permanent site and the development of the station there.

Mr. Ernst A. Bessey, special agent of the U. S. Department of Agriculture, sailed for Europe and Asia on the second of July. He is commissioned to visit Russia and Turkestan before his return.

Professor Baldwin Spencer and Mr. J. F. Gillen have returned to Melbourne from their expedition to the northern interior of Australia.

A Swedish expedition under Dr. P. Rubin is taking meridian measurements on the islands north of Spitzbergen. Dr. von Zeipel is astronomer and Lieut. Duner cartographer of the expedition.

The funeral services of M. Faye, the eminent astronomer and geodesist, took place on July 7, when addresses in his memory were made by M. Janssen, director of the Observatory of Meudon; General Bassot, president of the Bureau of Longitude, and M. Loewy, director of the Observatory of Paris.

Dr. Thomas H. Hoskins, at one time a physician and teacher of anatomy, but for the past thirty-five years engaged in agricultural experiments and writing, has died at his home at Newport, Vermont, at the age of seventy-four years.

Mr. J. Pierpont Morgan has presented to the Museum of the Jardin des Plantes, Paris, the collection of precious stones formed by Mr. George F. Kunz for the Buffalo Exhibition.

Mr. Andrew Carnegie has offered to give about $200,000 for four libraries in England.

The Royal Academy of Belgium will make at the close of the year 1904 the first award of its Ch. Lagrange prize. The value of the prize is 1,200 frs., and the subject is a contribution to geodesy.

The plan is being considered of holding a world congress of tuberculosis in St. Louis in 1904. Dr. George Brown, secretary of the American Congress of Tuberculosis, has taken steps toward the organization of the congress.

Messrs. D. Appleton & Company announce that they will publish in the autumn a volume of letters from Charles Darwin.

The second of the two annual *conversaziones* of the Royal Society was held at Burlington House on the evening of June 18, the fellows and guests being received by the president, Sir William Huggins. The London *Times* states that the exhibits were, with few exceptions, the same as were shown in May, but makes reference to some of the more attractive new exhibits. The model of the Antarctic exploring ship, the *Discovery,* exhibited jointly by the Royal Society and the Royal Geographical Society, naturally attracted considerable attention. Mr. Henry Crookes exhibited specimens of volcanic dust from the West Indies with micro-photographs and microscopic slides of the same. Exhibits by Dr. F. W. Gamble and Mr. Frederick Keeble, illustrated the color changes of crustacea, especially in response to light, and under the influence of background. Another specially noteworthy exhibit was Dr. Traver's elaborate

apparatus for liquefying hydrogen. Mr. E. J. Bles's living tadpoles of the Cape clawed frog well repaid study, as their remarkable transparency showed much of their internal economy. Mr. W. Gowland's Japanese pictures of Buddhist divinities and saints by old masters were curious examples of the art of Japan, and Mr. Edward Whymper's beautiful photographs from the Rocky Mountains of Canada, where he spent the greater part of last year, were of great interest. Professor Garwood exhibited examples of telephotography in the Alps and Himalayas. Professor Ramsay showed an attempt to reproduce the Aurora Borealis by taking advantage of the krypton element in the atmosphere. Professor Flinders Petrie showed some striking slides illustrative of the early civilization of Egypt. Mr. J. Y. Buchanan exhibited a series of slides illustrating the performance of M. Santos Dumont's dirigible balloon and the accident to it in February last, and Professor E. B. Poulton illustrated by means of very successful three-color slides, some of his recent work upon protective resemblance and mimicry in insects.

THE seventh annual congress of the South-eastern Union of Scientific Societies was, says *Nature,* held at Canterbury on June 5–7. Thirty-seven societies are affiliated, a slight increase on last year; the accounts showed a small balance, and the attendance was good. An invitation to meet at Dover next year was accepted, and Sir Henry Howorth, F.R.S., was elected president for that meeting. Papers were read on 'The Marine Aquarium,' by Mr. Sibert Saunders, and on 'Mycorhiza,' by Miss A. Lorrain Smith; Professor Poulton gave a lecture on 'Recent Researches on Mimicry in Insects,' illustrated by lantern-slides in natural colors; a discussion on the measure to be adopted for the preservation of British indigenous flora was initiated by Professor Boulger and Mr. E. A. Martin; and papers on 'Well-sections,' by Mr. Whitaker, and on 'Eolithic Flint Implements,' by Mr. E. R. Harrison, were taken as read, but will appear in *The South-Eastern Naturalist* for 1902. The event of the meeting, however, was the address by the president, Dr. Jonathan Hutchinson, F.R.S., on leprosy, with special reference to its antiquarian aspects, with reasoned argument against the theory of contagion. The congress was held, by permission of the governors, in the Simon Langton Schools, where an excellent local museum had been got together, including marine aquaria exhibited by Mr. Saunders, Mr. Harrison's eoliths, and many fresh specimens of the British orchids, so well represented in the district. The members visited the cathedral, and were entertained at the deanery by the Dean and Mrs. Farrar, and were also received, on the Friday evening, by the Mayor and Mayoress. The congress terminated on the Saturday afternoon in a visit to the South-Eastern Agricultural College, Wye, at the invitation of the principal, Professor A. D. Hall, where the members were shown over the farms and laboratories by the staff of the college.

CONSUL-GENERAL W. R. HOLLOWAY sends the following to the Department of State, from St. Petersburg: The official report of the International Exhibition of Fishery, which was held at St. Petersburg, January 28 to March 9, 1902, has just been published. The countries participating were Russia and Finland, Austria, Belgium, Germany, Denmark, Egypt, India, Spain, Italy, Monaco, Norway, Persia, Roumania, Siam, France, Sweden and Japan, the first making much the best exhibit; but as a whole, the exhibit was not up to the standard of previous ones, the participants, Russia excepted, taking little or no pains to make a creditable display.

UNIVERSITY AND EDUCATIONAL NEWS.

IT is announced that Mrs. Thomas G. Bennet, of New Haven, is the donor of the new clinical building for the Yale Medical School, the cost of which with the land is $96,000.

IT is reported that Northwestern University will receive about $200,000 by the will of the late James F. Robinson.

BY the will of the late Dr. Anson Judd Upson, Hamilton College receives a bequest of $5,000, subject to a life interest.

MR. B. F. HAWKLEY, representing the trustees of the late Cecil Rhodes, has addressed a