

isfy the commissioners (a) that he has obtained, or can within one month of election obtain, a post in some engineering or other manufacturing works approved by them; (b) that he is in need of pecuniary assistance to enable him to accept such a post. A bursar may, if the commissioners approve, spend part of the tenure of his bursary in studying a special industrial process or processes in works either at home or abroad. No bursar shall enter a firm as a premium pupil without the special consent of the commissioners. A bursar must submit a report of his work to the commissioners on the expiration of each year of his bursary. Forms of application may be obtained from the secretary to the commissioners.

UNIVERSITY AND EDUCATIONAL NEWS

By act of the New York legislature, approved by Governor Dix, a state college of forestry has been established at Syracuse University, and the sum of \$55,000 has been appropriated for it. It will be remembered that the legislature several years ago refused to continue to support the college of forestry at Cornell University.

GOVERNOR DIX has vetoed the bill to appropriate \$10,000 for establishing a state school of sanitary science and public health at Cornell University.

MR. WILL C. HOGG has stated that he has assurances of a fund of \$25,000 a year for five years for the University of Texas, from which a prize of \$10,000 and other prizes are to be given for the best theses on the scope and purposes of the university.

At West Virginia University E. D. Sanderson, dean of the College of Agriculture, has been appointed director of the Experiment Station to succeed J. H. Stewart, recently resigned, to take effect January 1, 1912, in addition to his duties as dean. Mr. I. S. Cook, Jr., of Chillicothe, Ohio, a graduate of Ohio State University, 1906, has been appointed associate professor of agronomy. William H. Alderman recently associate horticulturalist,

New York Agricultural Experiment Station, Geneva, New York, has been appointed professor of horticulture.

DR. ROBERT RETZER, assistant professor of anatomy in the University of Minnesota, has been elected to a similar position in the University of Chicago.

DR. PAUL J. WHITE, '06, assistant professor of farm crops in the New York State College of Agriculture since 1908, has accepted a professorship in Washington State College at Pullman.

MR. SIDNEY S. SCHMIDT, a graduate of the Missouri School of Mines, and at present a chemist for the Washoe Smelter at Anaconda, Montana, has been appointed assistant in mineralogy at Northwestern University. He will take the place of Mr. A. J. Ellis, who resigned to accept an appointment on the U. S. Geological Survey.

PROFESSOR REICHENBACH, of Bonn, has received a call to succeed Professor von Eschmarch as director of the Hygienic Institute at Göttingen.

DR. GUSTAV STÖRRING, professor of philosophy at Zurich, has been called to Strasburg.

PROFESSOR BETHE, of Strasburg, has accepted a call as professor of physiology at Kiel.

DISCUSSION AND CORRESPONDENCE

COAL NEAR PINEDALE, NAVIJO COUNTY, ARIZ.

IN Mr. A. C. Veatch's recent article on the coal deposits near Pinedale, Navajo County, Ariz.,¹ his first sentence reads: "The suggestion that there were coal deposits in the region near Pinedale, Ariz., first came to the survey through the General Land Office (about November 27, 1909)."

The writer wishes to call attention to the fact that coal was known to exist in this region many years previous to the date above given. In 1903 the writer published an article on the "Geology of the Fort Apache Region,

¹ U. S. Geol. Survey Bulletin No. 431—B. Advanced Chapter from Contributions to Economic Geology, 1909—Coal and Lignite, pp. 154-158.

Arizona";² and, in said article, the Cretaceous formation receives mention as follows:³

The Cretaceous.—About twenty-six miles northwest of Fort Apache near Forestdale (not far from Pinedale mentioned in the article above) a coal outcrop is exposed, which seems on lithological grounds, to be the same as the Fort Union or Laramie coal of New Mexico. The extent of this coal series is not known to the writer as it is almost everywhere covered with later deposits.

ALBERT B. REAGAN

NETT LAKE, MINN.

THE SECOND RECORD FOR BLANDING'S TURTLE IN CONCORD, MASS.

As curator of the Thoreau Museum of Natural History, Middlesex School, Concord, Mass., I have just received a specimen of Blanding's turtle [*Emys Blandingii* (Holbrook) Strauch] caught by W. A. Patch on July 19, 1911, in the Concord River, off Dakin's Hill. The specimen was given me by Mr. John Hoar, and is peculiar in that it has a large growth beneath the chin. The only other Concord record is of a specimen taken by Thoreau in the same river, and now (only carapace and plastron) preserved (No. 454) in the Boston Society of Natural History.

R. HEBER HOWE, JR.

SCIENTIFIC BOOKS

The Biological Stations of Europe. By CHARLES ATWOOD KOFOD. United States Bureau of Education; Bulletin, 1910, No. 4. Pp. 360. Washington.

The biologist of sixty and seventy years ago labored under difficulties that the present generation can hardly appreciate. The facilities for work were scarce; books and apparatus of all sorts were hard to obtain; there were no laboratories of any kind with the exception of the dissecting rooms of the medical schools. Little was known of methods of study of marine life. To be sure, one could wander along the shore, picking up the forms living between tides, and could preserve them in a bottle of new rum, but for the species living

² *American Geologist*, Vol. XXXII., pp. 265-308.

³ *Ibid.*, p. 280.

below low-water mark the student and collector had to depend upon the wreckage thrown up by storms or upon the contents of the stomachs of fishes. The latter method was employed by Dr. Stimpson in obtaining the material for his work upon the shells of New England, and, while looking over fish refuse for this purpose, was stoned as a crazy man by the boys of Marblehead. It was not until a few years later that the late Dr. Henry Wheatland, of Salem, constructed the first naturalist's dredge ever used in America and initiated Stimpson into a line of work which he turned to such good account while acting as naturalist of the Ringgold-Rogers expedition to the North Pacific Ocean.

The student of to-day has everything ready at hand. From the moment he enters the laboratory as an undergraduate until his doctor's dissertation is accepted, everything he needs in the material line is placed before him—specimens, books, apparatus—and all of his time and all of his energies can be devoted to his problem. Then when he goes to the shore for his investigations he is no longer compelled, like Johannes Müller, the father of marine biology, to depend upon the limited facilities of a fisherman's hut. He finds, in almost every region of the globe, a biological station equipped with every requisite for his work. In the evening he states his needs for the next day—animals, apparatus, chemicals—and the next morning he finds these ready in the well-equipped study set aside for his exclusive use.

Whether this is best in every respect for the student is a question. It is often remarked that the younger men have no such acquaintance with the animals and plants, their systematic position, names and habitats, that the older men had, and this lack of knowledge of one aspect of nature is in large measure due to the lack of any necessity of hunting the specimens. A little less helpfulness on the part of the laboratory collector would result in a better acquaintance with life and living things.

Be this as it may, the fact remains that biological stations are with us and they are