

engineering and physics. The cost of the building and equipment will be \$150,000. Smith Hall, named for Professor Eugene A. Smith, of the chair of geology, is also nearing completion, and will be occupied by the departments of geology and biology. This building will cost \$100,000. An academic building, to be a duplicate of Smith Hall, will be begun in the near future.

At a session of the committee on education of the Massachusetts legislature on February 24 the establishment of a "Massachusetts College" was considered. The aim of such an institution was explained by Mr. Courtenay Crocker, Mr. Edmund D. Barbour and Professor Thomas A. Jaggar, to be to carry higher education to people not in a position to seek its seats at colleges and universities, to give it at a cost which would bring it within reach of those in less than moderate circumstances, and to furnish a training which would justify the awarding of the degrees of A.B. and A.M. Mr. Barbour has offered to give \$100,000 to promote the plan.

THE trustees of Wesleyan University have voted to abolish coeducation in the institution after the class entering in the fall of 1909. It is planned, however, to establish in connection with the university a college for women.

MR. SAMUEL W. MCCALL, congressman from Massachusetts, has declined the offer of the presidency of Dartmouth College.

LORANDE LOSS WOODRUFF, Ph.D. (Columbia), has been advanced to an assistant professorship of biology in Yale University.

ASSISTANT PROFESSOR ROBERT W. HALL has been promoted to the professorship of biology at Lehigh University.

MR. LOUIS A. HERDT, associate professor of electrical engineering at McGill University, will succeed Professor Owens in the chair of electrical engineering.

THE electors to the Waynflete professorship of mineralogy at Oxford have elected Dr. Herbert Lister Bowman, M.A., D.Sc., New College, to the professorship in the place of Dr. Henry A. Miers, D.Sc., fellow of Magdalen,

who resigned this chair last October, on his election to the principalship of London University.

DISCUSSION AND CORRESPONDENCE

FOREST PRESERVATION

TO THE EDITOR OF SCIENCE: In a recent number of an engineering paper appears an editorial entitled, "How 'Concrete Lumber' Has Made Forest Preservation a Farce." The article opens with the following words:

The fast-perishing forests of America have been the theme of many a statistical lament. "Behold the loss of all this wealth, this criminal waste of natural resources!" cries the statistician, until we find ourselves almost sniffing in sympathy. Amid all this *illogical agitation* (sic) for forest preservation it is well to turn an eye toward the timber of the future "concrete lumber" as it has been aptly called, etc.

Are we to understand that engineers and contractors are willing to look forward to a concrete age, which will be independent of the waste of natural resources? The statistician tells us that the production of cement in 1890 was 335,000 barrels; in 1907 it was 52,000,000 barrels, worth \$56,000,000. Will some one tell us how many tons of coal will be required to manufacture the cement which the world will require during the present century? And then will some one go farther and estimate how many board feet of lumber are likely to be used to make the forms required for concrete construction? The organized effort which is now being made to educate the people, so that wasteful extravagance shall cease, should receive the hearty support of the engineering profession and press. The following statement of Dr. I. C. White, state geologist of West Virginia, is likely to become classic and can not be too often reprinted:

Just as sure as the sun shines and the sum of two and two is four, unless this insane riot of destruction and waste of our fuel resources which has characterized the past century shall be speedily ended, our industrial power and supremacy will, after a meteor-like existence, revert before the close of the present century to those nations

that conserve and prize at their proper value their priceless treasures of carbon.

ALLERTON S. CUSHMAN,
Assistant Director

OFFICE OF PUBLIC ROADS,
U. S. DEPARTMENT OF AGRICULTURE

MAGNETIC ROCKS

WHILE in southern Arkansas recently, studying the northern outcrops of the oil-bearing horizons of Louisiana, I took occasion to ascertain whether the peridotite eruptives about Murfreesboro, Arkansas, were as magnetic as similar rocks in central New York. They prove to be so; hence it seems that if a somewhat detailed magnetic survey of the region thereabout were made the tens of thousands of dollars now expended in worthless options might practically all be saved. Naturally in searching for diamonds the first information desired is the whereabouts of the volcanic necks bearing the diamond dirt. Though these are covered by plateau gravel or alluvial sands and clays they can be detected as readily as the dikes in central New York can be located though under many feet of glacial till.

G. D. HARRIS,
Geologist to Louisiana

A NEW PHENOMENON IN ELECTRIC DISCHARGE

DURING last May the writer used a wire of platinum having a diameter of 0.005 cm., in some work in electric discharge around a right angle in a wire. The discharges were made non-oscillatory in character, by introducing into the circuit a couple of strips of cloth such as is used for surgical bandages. These strips, which were in multiple, connected two tumblers containing salt solution, one of which was about 20 cm. above the other.

During about three weeks of use, a system of wavelets formed along the whole length of the wire. They were very uniform in dimensions. The wave-length was 0.090 cm., and the amplitude from crest to crest was 0.015 cm. The wire was under tension of four grams weight, by means of silk threads passing over pulleys.

The writer is under the impression that the irregular bending of wires traversed by a con-

tinuous current has been observed, but is unable to find a reference to it.

FRANCIS E. NIPHER

THE DATING OF PUBLICATIONS

TO THE EDITOR OF SCIENCE: Through accident or policy, the Carnegie Institution has not dated many of its recent publications. In bibliographical citations, where dates are used to designate publications, it is difficult to dispose of papers where the time of publication is not given. Moreover, is it not desirable to date articles, to protect the writers in priority?

MAX MORSE

THE COLLEGE OF THE CITY OF NEW YORK,
February 2, 1909

SCIENTIFIC BOOKS

Die Metamorphose der Insekten. Von P. DEGENER. Pp. 56. Leipzig u. Berlin, B. G. Teubner. 1909.

This little book, by one who has written several valuable articles on the development of the alimentary tract of insects, is one of the most thoughtful and suggestive of a number of recent general accounts of Hexapod metamorphosis. The author adopts the now usually accepted view, advanced by Fritz Müller in 1864, that the larvæ and pupæ of insects represent cœnogenetic adaptations, the result of a tendency, so to speak, on the part of an originally monomorphic form, to become strongly trimorphic during its ontogeny. In other words, the more specialized insects (Holometabola) have found it increasingly advantageous to assume three successive forms during their metembryonic development: the first, or larva, being devoted to alimentation and growth, and often exhibiting peculiar modifications to suit the highly specialized environment in which it lives, the third, or imago, being devoted to the reproduction and dissemination of the species, and the second, or pupa, providing for the transformation necessitated by the two other very different stages.

Degener's work is divided into three parts: an analysis of the organization of the larva, a consideration of the phylogeny of metamorphosis and of the significance of the pupal stage. He recognizes three kinds of larvæ: