

when Nebraska and Colorado, for instance, were huge swamps frequented by strange beasts whose fossil remains are now found in the rocks formed from the sand and mud of the ancient swamps, which have since been elevated thousands of feet. The book of 244 pages is as a whole distinctly popular in character.

UNIVERSITY AND EDUCATIONAL NEWS

GOVERNOR DUNNE has signed the bill giving \$5,000,000 to the University of Illinois for the biennium. It is the largest grant made in a single law to any university in the United States.

THE University of California has accepted an offer of the Children's Hospital, of San Francisco, whereby the hospital remains independent financially and administratively, but whereby all its resources become available for the educational purposes of the University of California Medical School.

A SEPARATE department of chemical engineering on the same plane as the mining, civil, electrical and mechanical engineering departments will be established in the Columbia graduate engineering school next fall. The head of this department will be Professor Milton C. Whitaker, who has been the professor of engineering chemistry for the past five years. For the past ten years the university has offered courses leading to the degree of chemical engineer in the department of chemistry but the rapidly increasing importance of these industries based upon the applications of chemistry and the subsequent demand for men especially trained in fundamental engineering problems has led the university to supplement these courses with the more elaborate facilities and opportunities offered in a separate chemical engineering department.

THE new announcement of the West Virginia University states that on and after September 1, 1917, two years of collegiate work, including courses in physics, chemistry, biology and French or German, will be required for admission to the medical school.

THE University of Cincinnati is again giv-

ing a pre-medical summer course in physics, analytical chemistry, organic chemistry and zoology. The term lasts from June 7 to August 14, a period of ten weeks.

DR. M. ALLEN STARR has resigned the professorship of neurology at the College of Physicians and Surgeons, Columbia University, and has been succeeded by Dr. Frederick Tilney, Brooklyn.

DR. R. H. GODDARD, instructor in physics at Clark College for the past year, has been made assistant professor.

THE following appointments have been made in the medical faculty of McGill University: Assistant professor of chemistry, Dr. F. W. Skirrow; assistant professor of physiology, Dr. J. A. Gray; associate professor in pathology, Dr. Horst Oertel; assistant lecturer in physiology, Dr. T. P. Shaw; lecturers in immunology, Drs. J. C. Meakins and Fraser B. Gurd; lecturer in hygiene, Dr. R. St. J. Macdonald; lecturer in biology, Dr. F. S. Jackson, and associate professor of physics, Dr. L. V. King.

DR. RICHARD HEYMONS has been appointed professor of zoology in the Berlin School of Agriculture.

DISCUSSION AND CORRESPONDENCE

THE FUNDAMENTAL EQUATION OF MECHANICS

I. IN regard to the question whether $F = ma$ or $F/F' = a/a'$ is the better form in which to introduce the fundamental equation of mechanics, the first point of difference between Professor Hoskins and myself may be stated as follows:¹

Professor Hoskins's method presupposes, as a matter of common knowledge (in advance of any statement of the fundamental equation), the difficult concept of mass or inertia; while my method postpones the introduction of this concept until the student is in position to define it intelligently in terms of the simpler concepts of force and acceleration.

In an attempt to justify his introduction "at the outset" of the "body-constant," mass,

¹ See Professor Hoskins's article in *SCIENCE* for April 23, 1915, which was written in reply to an article of mine in *SCIENCE* for February 5, 1915.