Dr. Henry C. Cowles, assistant professor of ecology, University of Chicago.

March 5—"Studies in Geology: The Grand Canyon of the Colorado River," by Dr. Wallace W. Atwood, secretary of the academy.

March 12—"Studies in Geology: The High Mountains of North America," by Dr. Wallace W. Atwood, secretary of the academy.

March 19—To be announced.

March 26—"The Conservation of our Natural Resources," by Mrs. Jane Perry Cook, head of department of geography, Chicago Normal School.

April 2—"Studies in Geology: The Geological History of the Chicago Region," by Dr. Wallace W. Atwood, secretary of the academy.

April 9—"Travel and Exploration in Alaska," by Dr. Wallace W. Atwood, secretary of the academy.

THE Geographic Society of Chicago has arranged for the month of May two excursions, the regular excursion on the second Saturday of the month and a special one later in the month. The regular excursion will take place on Saturday, May 15, under the leadership of Dr. Otis W. Caldwell, of the University of Chicago. The region visited will include the rich woods and the remarkable moving dunes near Furnessville, Indiana. The special excursion for May will be to Starved Rock and the Canyons of the Illinois River. Specialists will give the history of the region, explain its topography, and interpret its flora and avifauna. The society is actively supporting a measure now before the legislature looking to the incorporation and preservation of Starved Rock and its environs within the confines of a State Park.

WE learn from *Nature* that the Royal Physical Society of Edinburgh has opened its doors to women members. At the March meeting of the society, Mrs. Elizabeth Gray, Edinburgh; Miss Marion I. Newbigin, D.Sc., Edinburgh; Mrs. Ogilvie Gordon, D.Sc., Ph.D., Aberdeen, and Miss Muriel Robertson, London, were elected ordinary fellows.

THE U. S. Geological Survey has just opened at Denver a permanent branch office to facilitate the transaction of its western work, thus providing a base of supplies for the large corps of engineers who are kept in the field many months each year, making geologic studies of mineral deposits, conducting detailed topographic surveys for the base maps of the geologic atlas of the United States, mapping the great national forests, investigating surface and underground waters, and collecting statistics of mineral production. The establishment of such a branch office is not only intended to serve the convenience of the survey corps, but it is designed also to meet the great need of the western public for a source of information less remote than Washington. A supply of copies of the publications available for free distribution will be kept on hand, as well as a complete file of the topographic maps, geologic folios, and other publications of the survey subject to sale. All of these publications will be open to inspection by persons desiring information concerning the subjects treated. Prospective purchasers of maps and folios will be referred to the nearest sales agent, and the free publications will be distributed in Denver to those making application. In short, the Denver office is intended to serve the public in all matters that lie legitimately within the province of the United States Geological Survey. The office is located in the Commonwealth Building and was opened on the first of April. R. C. Miles, special disbursing agent, is at present in charge, and will answer all inquiries, distribute documents, and maintain a visitors' register.

UNIVERSITY AND EDUCATIONAL NEWS

AT the recent annual celebration of Founder's day at the University of Virginia, President Alderman announced that an endowment fund of $1,000,000 had been completed during the past year. Between November and February $750,000 of this total was secured in sums as follows: Andrew Carnegie, $500,000; Oliver H. Payne, $50,000; children of John B. Cary, $20,000; Christian Woman's Board of Missions, $30,000; Thomas F. Ryan, $25,000; Charles H. Senff, $25,000; Charles Steele, $30,000; Robert Bacon, $10,000; H. McK. Twombley, $10,000; General Education Board, $50,000. The $500,000 given by Mr. Carnegie will become the per-

manent endowment of six existing schools in the university, and these schools are to be given the names as follows: The James Madison School of Law, the James Monroe School of International Law, the James Wilson School of Political Science and Political Economy, the Edgar Allan Poe School of English, the Andrew Carnegie School of Engineering, the Walter Reed School of Pathology.

Gifts to Princeton University for the quarter ending with the spring recess aggregated $145,939. $100,000 was presented by Cleveland H. Dodge, '79, of New York, for part of the endowment of Guyot Hall, the new natural science laboratory now under construction on the eastern side of the campus. A fund of $400,000 was presented some time ago for the construction of the building, which is now nearing completion. The next largest gift came from the committee of fifty alumni who are raising funds by subscription for the immediate needs and future development of the university. This committee turned in a total of $38,039 for the quarter, $28,039 of which goes to current expenses and $10,000 for endowment.

Exercises appropriate to the opening of the new engineering building of Rutgers College, erected at a cost of $100,000, were held on April 14. The building contains seven classrooms, five laboratories, six professors' offices, and three draughting rooms. It is used by the departments of civil, electrical and mechanical engineering.

The University of Pennsylvania correspondent of the New York *Evening Post* states that the cosmopolitan character of the student body at the university was emphasized at the recent formation of the Cosmopolitan Club, the object of which is to hold occasional meetings, when an opportunity will be afforded to men of all nationalities to become acquainted with each other, and to discuss matters of common interest. It is planned to hold, next year, a series of "national nights," where the customs of each country will be presented by its representatives. It was found that there are 120 students in the university from the Latin-American countries, 50 students who are British subjects, and 31 who are Chinese. There are 32 other countries represented in the student body.

Dr. A. A. Murphree, president of the State College for Women at Tallahassee, has been elected president of the University of Florida.

Dr. R. C. Hughes has resigned the presidency of Ripon College.

J. F. Messenger, A.B. (Kansas), A.M. (Harvard), Ph.D. (Columbia), professor in the department of psychology and education of the State Normal School at Farmville, Va., has been called to the University of Vermont.

M. Dangeard, editor of the *Botaniste,* professor in the faculty of Poitiers, has been called to a chair in the faculty of sciences at Paris.

DISCUSSION AND CORRESPONDENCE

THE FUNDAMENTAL LAWS OF MATTER AND ENERGY

To the Editor of Science: In a recent number of *The Technology Quarterly* (June, 1908) appears an article by Professor Lewis entitled "A Revision of the Fundamental Laws of Matter and Energy." It closes with the following summary:

> It is postulated that the energy and momentum of a beam of radiation are due to a mass moving with the velocity of light.
>
> From the postulate alone it is shown that the mass of a body depends upon its energy content. It is, therefore, necessary to replace that axiom of the Newtonian mechanics according to which the mass of a body is independent of its velocity by one which makes the mass increase with the kinetic energy.
>
> Retaining all the other axioms of the Newtonian mechanics and assuming the conservation of mass, energy and momentum, a new system of mechanics is constructed.
>
> In this system momentum is mv, kinetic energy varies between $\frac{1}{2}mv^2$ at low velocities and mv^2 at the velocity of light, while the mass of a body is a function of the velocity and becomes infinite at the velocity of light. The equation obtained agrees with the experiments of Kaufmann on the relation