addition to the quantum theory of the photo-electric effect."

A SCIENCE club, including in its membership the faculties and advanced students of the four science departments, has been formed at St. Lawrence University, Canton, N. Y. The organization meeting was held on December 8, 1924. John B. Hulse is secretary.

A GRANT of $200 has been awarded to Dr. Charles E. Simon, of the department of filterable viruses of the School of Hygiene of the Johns Hopkins University, by the committee on scientific research of the American Medical Association for the prosecution of his studies on measles.

THE Rockefeller Institute for Medical Research is to erect a two-story isolation building which will cost $125,000.

THE late J. M. G. Prophit, a British merchant, has left the residue of his estate, estimated at £160,000, for a trust fund of which one half is to be applied for inquiry into the nature, cause, prevention, treatment and cure of tuberculosis, and one half for similar inquiry regarding cancer, as a board of special trustees shall decide. The trustees may, among other powers, apply the funds of the trust in financing persons or institutions conducting such research, the equipment and endowment of institutions or laboratories for this purpose and the publication of the results of such researches.

A NUMBER of centers of scientific research in France are to receive funds from the nine million francs collected from the public on Pasteur's day. Recommendations for the division of the funds, by the French Academy, have been made as follows: Observatories of France and Algeria, 150,000 francs; zoological laboratories, 630,000 francs; laboratories of physiology and medicine, 576,000 francs; Mme. Curie's laboratory in the Sorbonne, 170,000 francs; French Institute at Beyrout, 300,000 francs; M. König's laboratory, 200,000 francs; industrial science centers, 510,000 francs, and the work carried on by Henri Poincaré, mathematician, 120,000 francs.

COLUMBIA UNIVERSITY will hereafter take over patents arising from discoveries made in its own laboratories. Adoption of this policy is a new departure in the Columbia administrative system, which will protect the inventor and the public and enable the university, by sharing in profits, to promote research. An administrative board of university patents has been established.

THE Friends of Medical Progress, a national lay organization incorporated in Boston, Massachusetts, in 1923 for the purpose of disseminating medical knowledge among the general public, is contemplating for the year 1925 a greatly extended program of service. Office headquarters, formerly located in Boston, have moved to New York City, 370 Seventh Avenue, where cooperation with the more important educational and health organizations will be facilitated. With the change in location also comes a change in name. The society will hereafter be called the American Association for Medical Progress. Mr. Benjamin C. Gruenberg, well known to workers in the fields of education and public health, will take over the active management of the organization.

UNIVERSITY AND EDUCATIONAL NOTES

JOHN D. ROCKEFELLER, JR., has contributed the sum of $1,000,000 towards the $5,000,000 endowment fund being raised by the Tuskegee and Hampton Institutes.

OVER $10,000,000 has been pledged to Northwestern University since the beginning of its endowment campaign in 1920.

A BILL authorizing the expenditure of $370,000 for a medical school building at Howard University, Washington, has been favorably reported from the Senate Committee on public buildings and grounds.

RAFAEL PALMA, a Filipino lawyer, has been elected president of the University of the Philippine Islands.

PROFESSOR L. P. SIEG, head of the department of physics at the University of Pittsburgh, has been appointed dean of the college of liberal arts of the university.

PROFESSOR S. D. SNADER, formerly professor of structural engineering in South Dakota State College, has been appointed professor of structural engineering at the Stevens Institute of Technology, in the place of Frank E. Hermanns, who resigned to give his entire time to his private practice.

DR. GEORGE ALFRED GARRATT, who has been for the past two years in charge of the department of forestry and engineering at the University of the South, Tennessee, has been appointed assistant professor of forest products in the School of Forestry at Yale University.

PAUL D. KELLETER, formerly director of purchases and sales, United States Department of Agriculture, has been appointed director of the extension department of the New York State College of Forestry at Syracuse University. Mr. Kelleter succeeds Mr. Earl S. Peirce, resigned.

B. J. RYRIE has resigned his lectureship in morbid anatomy and histology at the University of Manchester, on his appointment to the Wernher Beit chair of pathology in the University of Cape Town.

DR. W. HIEBER, of Würzburg, has been appointed director of the department of inorganic chemistry at the University of Jena.

DISCUSSION AND CORRESPONDENCE

SHADOW BANDS

AT the time of the eclipse on January 24 the writer attempted to photograph the shadow bands by means of a motion picture camera. A ground glass screen 60 x 80 inches was mounted between the camera and the sun, about 14 feet from the camera, and the camera was focused on the screen. Credit is due to Dr. J. A. Anderson, of Mount Wilson Observatory, for suggesting this method, which, if the screen has the proper degree of scattering, affords a better illuminated field than can be otherwise obtained.

Unfortunately, the bands were very indistinct in Middletown. The ground, walls of buildings, etc., seen by the waning light of the sun, appeared as if viewed through a rising column of warm air. This appearance is clearly visible on the film. The exposure began two minutes before totality and was continued at intervals until totality commenced. When projected on a screen, the film reveals a fine-grained, quivering, mottled pattern of light and shade, becoming coarser and more ragged as totality approaches.

The writer, who was taking notes near the camera during the exposure, clearly perceived the flickering play of light and shade over his writing tablet, though he could not distinguish any particular direction of motion of the "bands." For a few seconds the tablet was clearly crossed by a series of faint parallel bands, estimated to be about three centimeters apart and a few millimeters wide.

No bands nor definite drift of the "shadows" can be detected with certainty on the film. Similar results were also obtained on the film after totality.

WALTER G. CADY

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SOME COLLOID PHENOMENA IN THE ROCKY MOUNTAINS

THE large amount of limestone in the Rocky Mountain region seems to be responsible for the peculiar bluish tone of color so often noted in glacial streams there; for the softness of this mineral is especially favorable to the formation of colloidal material as a result of glacial abrasion. The torrent which issues from the Victoria glacier towards Lake Louise in the Canadian Rockies has in its upper reaches a milky or brownish cast, the blue shade developing only after the relatively large particles have been deposited, mainly at a spit where the stream debouches into the lake. Some of the small side pools show the bluish cast. Dr. J. H. Mathews informs me that a chain of lakes fed from Arapohoe Glacier, Colorado, show similar progressive color change.

Another item of interest is found at Mammouth Hot Springs in Yellowstone Park. The travertine formation being laid down by the springs at present is amorphous or cryptocrystalline (Jupiter Terrace); while the upper formation, estimated to have been laid down between twenty and thirty thousand years ago, is distinctly crystalline and sparkling. Indeed in walking from the one up to the other, the progressive change can easily be noted, and the wavy formation seen in the new deposits still persists in the old, notwithstanding the crystallization. How often experimenters fail to obtain certain results because they do not wait long enough! But nature has endless time and patience.

JEROME ALEXANDER

NEW YORK, N. Y.

BUSINESS METHODS

I WENT into a large manufacturing establishment, where the latest and best machinery was employed. The manager took me over the place, and introduced me to the famous experts who were in charge of the various details of production. He showed me maps, on which were indicated the routes of his explorers, who went every year in search of raw materials. He took me into the store rooms, where these materials were accumulated in vast amounts. He explained, with much enthusiasm, how the world needed the products of his firm, and proved by excellent arguments that its very prosperity and progress depended upon the supply. He cited the best and most distinguished authorities in support of his opinions.

I could hardly express my wonder and admiration. I said, with emotion, "It is marvelous to think of all these useful products, about to be distributed to the entire world, and of all the good they will do." At this point the manager seemed to hesitate a little, and the smile faded from his face. "The fact is," he said, "we can not afford to market our goods, except to a quite limited extent. It is quite true that they would be of great value, could we get them to the people, but this year's appropriations for marketing were long ago exhausted, and next year's will be even less sufficient." I then said, "What do you propose to do?" He smiled apologetically and said, "Really, we can not do anything."