Dains, *chairman,* University of Kansas, Lawrence, Kansas.

ON Saturday evening, November 19, the New York Microscopical Society will hold its fiftieth anniversary at the American Museum of Natural History. The exhibition will consist of mounted objects under instruments, microscopes—ancient and modern, apparatus, accessories, books and other material of interest to the microscopist.

THE regular fall meeting of the New York section of the American Electrochemical Society will be held at Keen's Chop House, New York City, on November 18, at 6:30 p. m. Mr. G. A. Anderegg, of the Bell Telephone Laboratories, will speak on "Submarine Cable Engineering."

THE North American Committee on Fishery Investigations held its autumn meeting on October 19 at the University of Toronto. The United States was represented by Dr. H. B. Bigelow, of Harvard University, and Elmer Higgins and O. E. Sette, of the U. S. Bureau of Fisheries. The haddock fishery was given particular attention. Study of the total catch made on this side of the Atlantic reveals that there has been, on the whole, little change since as far back as the eighties of the last century, though a slow increase since 1900 is evident.

ON the occasion of the International Conference on Rabies, recently held in Paris, an International Society for Microbiology was founded, with Professor Jules Bordet, of Brussels, as president, and Professor Rudolf Kraus, of Vienna; Drs. Dujarric de la Rivière and Plötz, of Paris, as secretaries.

IN the presence of leaders of European chemistry, M. Herriot, minister of public instruction, laid on October 26 the corner-stone of the International House of Chemistry, to be erected in Paris at a cost of 15,000,000 francs as a memorial to Marcelin Berthelot. Jean Gerard, secretary-general of the French Society of Industrial Chemistry and head of the French committee in charge of raising funds, has succeeded in obtaining subscriptions from forty nations for the aggregate sum of 15,538,000 francs, 8,700,000 of which has been given by France. The United States was the fifth largest contributor on the list with 583,400 francs.

THE will of the late William John Curtis, of New York City, provides $10,000 to the New York Otological Society for its research fund and $10,000 to the Johns Hopkins University Medical School. Bowdoin College will eventually inherit $55,000 from two trust funds established for the testator's sister.

THROUGH the generosity of his surviving colleagues, the photographic collection of the late Erwin F. Smith, of the U. S. Department of Agriculture, has come into the possession of Science Service. The collection consists of more than 200 portrait negatives, largely of plant pathologists, but including a considerable number of portraits of historic value. With the negatives were also a large number of photographic prints, partly from the plates and partly from other sources. The work of cataloging negatives and prints is now going forward. All of the original photographs, together with a complete set of prints from negatives, will be deposited with the library of the Department of Agriculture after they have been properly arranged and labeled. The negatives will be retained by Science Service, and a special catalogue will be issued to enable interested persons to obtain such prints as they may desire.

UNIVERSITY AND EDUCATIONAL NOTES

A GIFT of $25,000 has been made to Harvard University by Mr. George R. Agassiz to endow a research fellowship for advanced students at the Harvard College Observatory.

THE Sloane physics laboratory at Yale University has purchased important additional equipment as a result of a gift of $26,000 made during the past year by Henry T. Sloane, of New York City.

THE Rockefeller Foundation has given $1,640,000 to the department of medicine of the University of Lyons, which is being removed to the suburb of Monplaisir, close to Grange Blanche Hospital. Of the remaining 15,000,000 francs required, Premier Poincaré and Minister of Instruction Edouard Herriot have promised to supply 12,000,000 francs in three instalments from government appropriations, the university will supply 1,500,000 francs and prominent citizens of Lyons will be asked to donate the remainder.

DR. WILLIAM H. COLE, professor of biology at Clark University, has been appointed professor of physiology and biochemistry at Rutgers University, where he will begin his work on February 1. His associate, Dr. Allison, will offer the courses in biochemistry.

JOHN WOLFENDEN, a graduate at Oxford and last year a fellow of the Commonwealth Fund at Princeton University, has become acting assistant professor of chemistry at Oberlin College.

DR. JOHN BEATTIE, recently prosector in the Zoological Gardens, London, England, has been appointed assistant professor of anatomy at the University of Montreal.

R. HERBERT EDEE has left Northwestern University

to become professor of organic chemistry at Hamline University, St. Paul, Minnesota.

EDWIN H. SHAW, Jr., has been appointed assistant professor of biochemistry at the University of South Dakota, Vermillion, S. D.

DR. H. C. JACKSON, associate dairy manufacturing specialist of the Bureau of Dairy Industry, at present in charge of the department's experimental work at the Grove City creamery, has accepted appointment as head of the dairy department in the College of Agriculture of the University of Wisconsin.

R. R. MCKIBBIN, assistant professor, soils department, University of Maryland, has been appointed lecturer in the department of chemistry in Macdonald College, Quebec, Canada.

ASSISTANT PROFESSOR W. W. ELLIOTT has been promoted to a professorship of mathematics at Duke University.

PROFESSOR ZWAARDEMAKER, occupant of the chair of physiology at the University of Utrecht, has resigned his post, having reached the age limit. He will be succeeded by Professor Noyons, of Louvain, Belgium.

DISCUSSION AND CORRESPONDENCE

A COMMUNICATION ON THE MAGNETO-OPTICAL EFFECT AND A CORRECTION

THIS article concerns the Magneto-Optical Effect, described by me in SCIENCE (N. S. Vol. LIII, No. 1382, pp. 565 to 569, June 24, 1921) and *Nature*, June 23, 1921, which was at that time a novel discovery or observation. The description was later followed by a statement of "Further Investigations," (SCIENCE, N. S. Vol. LIV, No. 1387, pages 84–85, July 29, 1921).

In the first place, I desire to make a correction in the latter communication, where it is stated that the "flickering observed appears to keep time with the *cycles* and not with the *alternations of current*." This is an error, as it was found later that in reality the described fluctuations do indeed follow the alternations, the mistake being due to misinformation as to the cyclic rate.

It may be desirable here to describe briefly the original phenomena, adding comments which relate to more recently observed facts. A magnetic field produced by a direct current, permanent magnet, or by interruptions or alternations of current is rendered visible even when very weak, by a light smoke from an iron arc. Such fume or smoke is effective for the purpose even when so thin or diffused as to be scarcely noticeable in the air. Such smoke, too, diffused in the space where a field exists, when illuminated from above by sunlight or an artificial source, and viewed in a direction across the light beam, and more or less normal to the direction of the lines of force of the field apparently becomes luminous. In reality it becomes a far better reflector or diffuser in certain directions of the incident light than when the field lines are absent. Viewed along the magnetic lines no increased luminosity is produced even when the field is strong or the illumination strong, or both.

The conditions for its observation seem to be—

1. Illumination transverse (more or less) to the direction of the lines of force of the field.

2. Viewing in a direction more or less transverse to the lines of the field and to the direction of the incident light.

The amount of iron smoke in the air required to produce a very noticeable effect seems to be very small, although density of the smoke increases greatly the contrast between what is visible when current or field is on, and when no magnetic field exists. Indeed, without the presence of the field the smoke from the iron arc may be practically invisible. The illumination from the smoke particles was found to be polarized as if produced by reflection from strings of fine particles, oriented in the direction of the field lines. These particles are exceedingly small, almost beyond ordinary high powers of the microscope, and the striated ferric oxide, which it seems to be can be caught on a microscope slide while the magnetic field is on, and studied under high powers.

The remarkable thing is the small amount of the iron smoke needed to produce the effect and the instantaneous response to very weak fields. Thus, if an open coil or helix without a core of iron be traversed by a fluctuating or slowly alternating current, the flickering may be shown by a detector constituted by holding the open neck of a glass flask over an iron arc for a few moments. Some of the smoke enters the flask, which can then be corked. Such a flask has shown flickering at a distance of twelve feet away from a small coil, through which a low frequency current was sent. And, curiously, when the flask was placed near the coil the flickering was replaced by a steady illumination. When gradually removed from the coil in the direction of its axis, the flickering became more and more pronounced.

This indicates that the orientation or arrangement of the particles to correspond with the field lines, takes place with a weak field, and almost instantaneously in a strong alternating field; in the latter case, being accomplished and maintained throughout the whole wave of current. The zeros seem to be without effect in arresting the appearance, while at a considerable distance away from the same coil, excited as before, the weaker field at such a distance