in the interior of China for the U. S. National Museum, died there of appendicitis on September 8, according to cable advices to the Smithsonian Institution from Kuling, Kiangsi Province.

AT the St. Louis meeting of the American Medical Association in 1922, the Section on Diseases of Children authorized the creation of the Abraham Jacobi Memorial Fund Committee, for the establishment of a permanent fund for the section. We learn from the *Journal* of the American Medical Association that a copy of the yearly transactions of the section is sent free to each contributor; a part or all of the expenses of a foreign guest of the section will be met by appropriations from the fund; pediatric exhibits in the Scientific Assembly of the American Medical Association will be encouraged, and, if advisable, the expense thereof paid from this fund, and wherever possible a grant will be made for the assistance of pediatric research or for charity. A new member of the committee is elected by the section each year to serve five years. The committee elects one of its members as secretary of the fund, and the oldest member in point of service on the committee acts as chairman. The following are the officers of the committee: Chairman, Dr. Laurence R. Debuys, New Orleans; secretary, Dr. Frank C. Neff, Kansas City, Mo., and members, Drs. Fritz B. Talbot, Boston; Clifford G. Grulee, Chicago, and Harold K. Faber, San Francisco.

THE University of Indiana has received a check for $1,500 from the Home Insurance Company because cloudy weather prevented its expedition from taking photographs of the scientific value of the eclipse of the sun which would have been visible except for the clouds in Lower California on September 10. Swarthmore College also insured its expedition to obtain photographs against cloudy weather through the same company, taking a policy for $10,000. The University of Indiana paid a premium of $150. Swarthmore paid $500 for a *pro rata* policy and will be paid according to the degree of the failure to obtain satisfactory plates. Swarthmore's plates have not yet been developed.

A DISPATCH from Tokyo states that the loss to Japanese science by the fire and earthquake is enormous. The Imperial University's collection of scientific instruments was destroyed by the fire. It will take years to replace them.

THE Chemical Exposition this year was held this week immediately following the annual meeting of the American Chemical Society. The usual meeting of the American Ceramic Society was held in conjunction with the exposition in the Grand Central Palace beginning on September 19. The annual banquet and election of the Salesmen's Association of the American Chemical Industry was also held during the week of the exposition. The regular dinner during the Chemical Exposition of the American Institute of Chemical Engineers was held Wednesday evening.

HOW radio is finding a use for many of the rare metals was shown at the composite radio exhibit at the National Exposition of Chemical Industries, which opened at the Grand Central Palace, New York, on September 17. A number of well-known firms contributed products of their manufacture which deal directly or indirectly with the construction or operation of radio instruments. Thorium, tellurium, selenium, tantalum, molybdenum—all metals rarely getting into commerce on a broad scale—were demonstrated. In addition to the metals, carborundum crystals, synthetic resins, hard-rubber radio parts, extremely fine precision instruments for electrical work and a number of other important features of the radio construction were demonstrated. Alundum tubes for use in measuring high temperatures, particularly in furnaces for drawing tungsten tube wire, formed part of the exhibit.

THE Eighth Meeting of the Optical Society of America will be held at Cleveland, Ohio, Thursday, Friday and Saturday, October 25, 26 and 27. The hotel headquarters will be Hotel Cleveland and the meeting place for the program of papers will be Case School of Applied Science. Professor A. A. Michelson will read, by invitation, a paper on "The limit of accuracy in optical measurement," and there will be a program of contributed papers and committee reports. Arrangements are being made for visits to the Nela Research Laboratories, the National Lamp Works, Warner and Swasey and the Cleveland Museum of Art. The advance programs will be mailed to all members about October 5 or 10. Since there are other large conventions in Cleveland at the same time, hotels are likely to be crowded, and members are advised to make their hotel reservations at once. Dr. W. E. Forsythe, Nela Research Laboratory, Nela Park, Cleveland, is chairman of the local committee on arrangements and Dr. Irwin G. Priest, care of the Bureau of Standards, Washington, D. C., is the secretary of the society.

UNIVERSITY AND EDUCATIONAL NOTES

DR. JAMES S. SWARTZ, formerly treasurer of the International Mercantile Marine, chairman and for nearly forty years trustee of Bucknell University, has given to the university a 600-acre tract of land situated along the Potomac River valued conservatively at $60,000.

SEVERAL cousins of Austin B. Fletcher, who died on July 5 leaving the bulk of his fortune to Tufts College, have formally protested probate of his will by filing objections in the Surrogates' Court. The value of the estate is said to exceed $4,000,000.

Z. P. METCALF, professor of zoology and entomology in the North Carolina State College and entomologist of the North Carolina Experiment Station, has been appointed director of resident teaching in the College of Agriculture.

PROFESSOR J. W. MILLER, who has served as head of the department of electrical engineering of the Oklahoma Agricultural and Mechanical College for several years, has been appointed mechanical and electrical research engineer at the engineering experiment station of the University of Arkansas. Mr. Miller will devote his time exclusively to research work on problems of interest to the industries of the state.

MISS CLEMENTINA S. SPENCER, professor of zoology and for seven years acting head of the department in Coe College, Cedar Rapids, Iowa, has resigned and was recently married to Mr. Chester A. Momyer, of Chicago. The new head of the department, occupying the newly created Bert. H. Bailey chair of zoology, is Dr. T. H. Bissonnette, formerly of Queen's College, Ontario, and of the University of Chicago.

DR. GEORGE D. PORTER, Toronto, has been appointed head physical director at the University of Toronto, succeeding Dr. James W. Barton, who resigned last spring.

MR. ALAN G. OGILVIE has been appointed lecturer in geography in the University of Edinburgh in succession to Mr. G. G. Chisholm, who had held that position since the lectureship was founded in 1908.

WE learn from *Nature* that Dr. W. Schumann, director of the Institute of Technical Physics at Jena University, has been appointed professor of theoretical electrotechnics at the Munich Technical College; Dr. Julius Schmidt, of the Stuttgart Technical College, to be reader in chemistry at the Engineering College, Esslingen; and Dr. K. Fajans, to be assistant professor of physical chemistry at the University of Munich.

DISCUSSION AND CORRESPONDENCE

CONCERNING TUNNIES AND ALBACORES

THE huge fishes of the open seas, known as tunny, tuna and albacore, are well represented in the Mediterranean, in the West Indies and especially in the Pacific Ocean, about Southern California, Hawaii and Japan. On account of their great size, the species are rare in collections, and in no case have the forms in any one of these regions been adequately compared with those of any other.

The first thorough and by far the most important study of this group has been lately published by Dr. Kamakichi Kishinouye of the Imperial University of Tokyo.[1] Of late years, deep sea fishing has brought these fishes in great numbers to the Japanese markets, a fact which has given Dr. Kishinouye a most valuable opportunity.

In the study of the muscular layers and associated organs he finds characters of great value. Other important distinctive traits occur in the skeleton. Any treatment of the scombroid or mackerel-like fishes either systematically or anatomically must make constant use of this paper.

Dr. Kishinouye very properly restricts the *Scombridae* to the two very distinct genera, *Scomber* (in Japanese *Saba*) with the short spinous dorsal and *Rastrelliger*. The Spanish mackerel and its allies (in Japanese, *Sawara*) form the well-marked family of *Cybiidae*, visibly separated by the strong dentition, the many-spined dorsal-fin and the long parallel interhemal bones. To this group most of the known fossil mackerels belong.

The Tunnies differ from these ancestral types in so many ways that Kishinouye would make of them a distinct order, *Plecostei*, with two families, *Thunnidae* and *Katsuwonidae*, the first containing the *tunnies* and *albacores* (in Japanese, *Maguro* and *Shibi*), the latter their smaller allies (*Katsuwo*) with the peculiar trellis-like structure of the posterior hemal bones. The new name, *Katsuwonus*, is given to the section of the older genus *Euthynnus*, to which the oceanic bonito, *Euthynnus pelamis*, belongs. Two other new generic names, *Parathunnus* (*mebachi*), and *Neothunnus* (*macropterus*), apparently justified, occur in this paper, but its larger worth consists in its minute description of the structure, habits and values of each of more than a dozen Japanese species and in the finely accurate engravings by which the work is illustrated.

DAVID STARR JORDAN
STANFORD UNIVERSITY

PHOSPHATE BEHAVIOR IN SOILS

RESULTS obtained by extraction of soils with varied quantities of water and data obtained from displaced solutions are corroborative of the idea that phosphate in the effective solution of the soil constitutes a saturated solution. Two corollaries flow from this propo-

[1] Contributions to the Comparative Study of the so-called Scombroid Fishes, Kamakichi Kishinouye: *Journal* of the College of Agriculture, Imperial University of Tokyo.