tinuing interest. More recently anti-anemic preparations gained a considerable portion of his attention, so that he was made chairman of the Pharmacopeial Advisory Board having control over potency claims for all official liver and stomach preparations used for the treatment of primary anemia. Dr. Edmunds's prominence in connection with pharmaceutical standards was based upon not only his interest but his own research work, the underlying object of which was improvement in therapeutics. Outstanding were his observations upon the effect of intravenous injections of dextrose in the treatment of diphtheria complicated by circulatory collapse, observations which have saved the lives of many individuals. Dr. Edmunds probably considered this his most important contribution to pharmacological research, for he made it the subject of his lecture delivered upon the occasion of his selection in 1937 as Henry Russel lecturer at the University of Michigan, the highest faculty honor award.

Dr. Edmunds not only was a keen observer but had a sharp perception of the underlying meaning of important situations and conferences. He was a friendly, sympathetic counselor and, although chary of direct advice, adept at finding the means to a solution or decision without it; in other words, eager and able to help one to help oneself. He loved and respected tradition and in pharmacological teaching helped to create it. He came into the field when laboratory teaching had only just been made a part of medical education and was vigorous in cultivating its growth. He was co-author with Cushny of "A Laboratory Guide in Experimental Pharmacology," the permanent form of their instructions to the students. Through the years this guide has been modified, but its principles still direct the laboratory work in pharmacology at Michigan. Also the text-book of pharmacology which Cushny took seven years to write was repeatedly and ably revised by Dr. Edmunds at great expense in time and effort.

There has been in the past much opposition to the existence of pharmacology as a separate entity in the medical school, resulting too often in its treatment as a step-sister of physiology or biochemistry. Against such treatment Dr. Edmunds took a strong stand. Closely related were his views upon the standards of pharmacology and pharmacologists and his insistence on freedom from commercialism.

Dr. Edmunds's authority and ability as a director and his relations with such bodies as the National Research Council brought to the University of Michigan at least two large research projects, the work of which was vastly aided by his scientific interest and informed advice. One of these was the pharmacological part of the coordinated investigation of the relation of chemical structure and physiological action among morphine derivatives and related substances as a means of attack upon the drug addiction problem. The other project was an extensive investigation of caffeine, coffee and decaffeinated coffee.

Dr. Edmunds possessed artistic abilities which he found time to employ in two directions. He was a great lover of flowers, and in the springtime his hyacinths and tulips were worth going far to see. For more than twenty years his summer holidays were spent at Monhegan, Maine, and most of the time there was devoted to painting in water color. In spite of the fact that his hand was idle in this field for the remainder of the year, each summer saw the execution of very fine work which was exhibited with distinction in many places.

In the death of Dr. Edmunds the University of Michigan Medical School lost a fine teacher and counselor, his associates an inspiring leader, and the science of pharmacology one of its ablest pioneers.

NATHAN B. EDDY

RECENT DEATHS

DR. ANNIE JUMP CANNON, astronomer of the Harvard Observatory, died on April 13 at the age of seventy-seven years.

WILLIAM REMSEN APPLEBY, professor of metallurgy and dean emeritus of the School of Mines of the University of Minnesota, died on April 8 at the age of seventy-six years.

DR. REUBEN EDSON NYSWANDER, professor of physics and electrical engineering and dean of the School of Science and Engineering of the University of Denver, died on April 8 at the age of sixty-three years.

DR. FRANK CLINCH HAMMOND, professor of gynecology and honorary dean of the School of Medicine of Temple University, died on April 12. He was sixty-six years old.

DR. HUGO KAHL, curator of entomology at the Carnegie Museum, Pittsburgh, until last January when he became curator emeritus, died on February 19 in his eighty-second year.

HENRY OSBORN TAYLOR, distinguished for his work on the history of civilization, died on April 13 at the age of eighty-four years.

SCIENTIFIC EVENTS

GRANTS AND FELLOWSHIPS OF THE AMERICAN COLLEGE OF DENTISTS

THE American College of Dentists offers each year a small number of grants-in-aid and research fellowships. These are intended primarily for individuals preparing themselves for a career as teachers and

investigators in one of the dental preclinical sciences, or those desiring to approach the problems of clinical dentistry through a discipline in the sciences fundamental to such problems. They are designed to be of help particularly to young teachers and research workers having a dental degree, working in well-established institutions and needing small financial subsidies to carry on their projects.

All applications for funds to be granted on July 1 must be on regular forms and in the hands of the chairman of the Research Fellowship Board by December first. All applications are passed upon by the board at a conference held in Chicago each February.

At the last meeting of this committee, the sum of $3,300 was recommended to be distributed as follows:

$600 grant-in-aid to Harrison R. Hunt and Carl A. Hoppert, East Lansing, Mich., for a continuation of an investigation on inheritance factors in dental caries of rats.

$500 grant-in-aid to M. L. Tainter, Dental School, College of Physicians and Surgeons, San Francisco, for a continuation of an investigation of the general problems involved in the evaluation of the abrasiveness of dentifrices and their individual constituents.

$1,200 research fellowship, to June R. Schamp, Dental School, College of Physicians and Surgeons, San Francisco, for an investigation, by means of a critical study by a new method, of the potency of analgesic and other drugs used singly and in combination.

$500 grant-in-aid to William H. Bauer, St. Louis University Dental School, for an investigation of the influence of various sex hormones on tooth and bone development and formation in dogs and monkeys as caused by the administration of certain estrogens, particularly estradiol benzoate.

$500 grant-in-aid to W. D. Armstrong, School of Dentistry, University of Minnesota, for an investigation of the effect on teeth and bones of a fluorine free diet.

The rules governing the granting and use of research funds of the American College of Dentists, as well as special blanks for applying for such funds, can be secured by writing to the Chairman of the A.C.D. Research Fellowship Board, Dr. A. L. Midgley, 1108 Union Trust Building, Providence, R. I.

EXPEDITIONS OF THE SMITHSONIAN INSTITUTION

ACCORDING to the annual report of explorations of the Smithsonian Institution, twenty expeditions were sent out during the year 1940.

Around the headwaters of Green River, Wyo., Dr. Charles E. Resser sought fossil remains of trilobites which abounded in the shallow waters off low beaches approximately half a billion years ago.

Dr. C. Lewis Gazin collected bones of extinct reptiles and mammals in the Manti National Forest, Utah, and in southwestern Wyoming. These included a nearly complete specimen of the six-horned, sabre-tusked uintathere.

In the Glass Mountains of west Texas Dr. G. Arthur Cooper collected fossils representing the life of the Permian period in geological history, about 300,000,000 years ago. The Smithsonian-Firestone Expedition, led by Dr. William M. Mann, director of the National Zoological Park, worked in Liberia, where collections of living mammals and reptiles were made. About 3,000 specimens of fish, reptiles and insects were added to the collections of the U. S. National Museum.

Dr. Alexander Wetmore, assistant secretary, made extensive bird collections in the Guanacaste Province of Costa Rica. W. L. Brown, chief taxidermist of the National Museum, gathered material for exhibition habitat groups of Rocky Mountain sheep and goats in the mountains of Alberta and British Columbia. An extensive addition to the collections was made by Dr. and Mrs. Hobart M. Smith, who worked in Mexico collecting reptiles and amphibians.

The life habits of the Alaska king crab, important in the canning industry, were studied in Alaskan waters by Dr. Waldo L. Schmitt, who was associated with an expedition of the Bureau of Fisheries.

Captain Robert A. Bartlett made extensive collections in Greenland waters. He also gathered for the Smithsonian collection birds, flowers and mosses from the Ironbound and Duck Islands, and visited a group known as the Thom Islands, which are completely covered with nests of eider ducks and Arctic terns.

Mollusks from the west coast of Mexico and the Gulf of California were collected by Mr. and Mrs. Russell Hawkins, Jr. Dr. Agnes Chase studied the grasses of Venezuela at the request of the Venezuelan Ministry of Agriculture.

Excavations of the Indian village of Patawomeke in Virginia, scene of the kidnapping of Pocahontas, was continued by Dr. T. D. Stewart, anthropologist; David I. Bushnell, Jr., found in the same state what may prove to be a habitation site of the earliest known inhabitants of North America, who hunted extinct bison in the West in the closing days of the last ice age. Dr. Frank H. H. Roberts, Jr., continued his excavations in Colorado of a known camp site of these people. Among his finding was a bone needle, which shows that they had at least reached the cultural stage of sewing garments. The cultural pattern of the Carrier Indians of British Columbia was studied by Dr. Julian H. Steward, of the Bureau of American Ethnology.

Comparison of the languages of the Navajo, the largest Indian tribe in the southwestern United States, and the Indians around Juneau, Alaska, nearly 2,500 miles away, were made by Dr. John P. Harrington.