cers some are stated to depend on dominant, others on recessive factors, and others are affected by multiple or modifying factors.

Finally a point which is not wholly overlooked in this book is, however, insufficiently stressed. It is that those traits that have a known chemical basis have the clearest cut genetics. One of the best illustrations of this conclusion is the blood groups with their agglutinogens and agglutinins. Others are found in the group of the feeble-minded—some types of which are associated with phenylpyruvic acid excretions (recessive trait), some with thyroid deficiency, like cretinism and others with storage of phosphatides like amaurotic family idiocy (a recessive). There is quite an array of inherited errors of metabolism which Garrod emphasized over 30 years ago. Again there is the dopa reaction upon which pigmentation of skin, hair and retina depend. If two or more pairs of genes are actively accelerating melanin formation in the skin the full Negro pigmentation is produced.

The relation between the somatic expression of a trait and its chemical basis may be remote. Thus hardness of hearing seems to depend on a defect in calcium metabolism such as causes abnormal bone formation at the oval window of the inner ear and simultaneously in other parts of the temporal bone. In this latter case there is reason for concluding that the result depends on a dominant factor in an autosome which modifies the reaction of the mesenchyme and a sex-linked gene which perhaps affects calcium metabolism. Indeed it seems probable that in time chemical errors in the body may throw light upon the chemical processes of development.

The fact that so many mutations have a known chemical basis and that development is, indeed, a biochemical process raises the question whether all mutations have not and lead us to seek the chemical basis of any defect. As the chemical bases of mutations are discovered the mutations may well be classified as a chemical basis rather than a morphological. Thus defects in pigmentation might well be grouped together instead of being distributed like albinism under "the eye" and skin color under "the skin." However, we are at present far from knowing these biochemical bases, with minor exceptions, and so for the present the morphological classification employed in part by the author is excusable.

CHAS. B. DAVENPORT

REPORTS

ANNUAL REVIEW OF ACTIVITIES AT FIELD MUSEUM FOR 1941

EXPANSION and improvement of exhibits continued during 1941, as for some years past, to be the major activity of Field Museum of Natural History. Two entirely new halls, one in the department of zoology and one jointly installed by the departments of anthropology and geology, were opened, and many additions were made to the exhibits in other halls throughout all departments.

The year was noteworthy also for an attendance in excess of 1,350,000 visitors; for the continuation of collecting and research by expeditions dispatched to various fields in North, Central and South America, and for the publication on a large scale of the results of these expeditions and other scientific research activities conducted by the staff of the museum.

One of the new exhibition halls is the large new Hall of Fishes, containing elaborate undersea habitat groups, and an extensive series illustrating relationships of the different species. The groups include underwater scenes of the Bahama Islands, the Texas Coast and the shores of Maine. The hall was prepared under the supervision of Alfred C. Weed, curator of fishes; the hundreds of reproductions of fishes were predominantly the work of Staff Taxidermist Leon L. Pray, although other taxidermists and artists also contributed.

The second new hall was H. N. Higinbotham Hall of Gems and Jewels, in which the museum's comprehensive collection of precious stones was reinstalled in a manner that brings out their full beauty of color, luster and brilliance as never before. The most modern museum techniques and equipment were employed, including new types of exhibition cases and improved fluorescent lighting methods.

A unique exhibit was installed in the Hall of Egyptian Archaeology through the courtesy of the General Electric X-Ray Corporation of Chicago, which contributed the x-ray and mechanical equipment. In this exhibit a mummy in its wrappings is shown alternately with the revelation of its skeleton on a fluoroscopic screen. Among many other additions and improvements to the exhibits are included a habitat group showing the inter-tidal algal vegetation of the rocky north Atlantic shore.

Further investigations were made of the prehistoric Mogollon Indian culture in New Mexico by the Field Museum Archeological Expedition to the Southwest. Dr. Paul S. Martin, chief curator of anthropology and leader of the expedition, with associated archeologists, and a "labor force" of twelve for the actual digging, excavated the ruins of an ancient village which had been occupied sometime between 1,200 and 2,400 years ago.

Notable additions to the museum's zoological col-

lections were made by the Leon Mandel Galapagos Expedition. Scientific personnel included Dr. Wilfred H. Osgood, curator of zoology emeritus; Rudyerd Boulton, curator of birds; Loren P. Woods, assistant curator of fishes; Staff Taxidermist Leon L. Walters, and Melvin Traylor, associate in ornithology. Colin C. Sanborn, curator of mammals, sailed to undertake collecting and studies of Peruvian animals.

An expedition which has as one of its objects the determination of the date at which the Isthmus of Panama emerged from the sea was dispatched to Central America in November and will continue its work in 1942. Paul O. McGrew, assistant curator of paleontology, is in charge.

Dr. Sharat K. Roy, curator of geology, collected invertebrate fossils in New York State. Llewelyn Williams, curator of economic botany, sailed in October for a botanical expedition in Venezuela, and will continue collecting and researches for about a year. Donald Collier, assistant curator of ethnology, left in September for five months of archeological research in Ecuador. Dr. Francis Drouet, curator of cryptogamic botany, made an extensive collection of the cryptogamic plants of California. Dr. Fritz Haas, curator of lower invertebrates, collected thousands of representative Pacific shore animals in southern California. A botanical expedition to Guatemala, which began work in 1940, was concluded by Paul C. Standley, curator of the herbarium, and followed by a new expedition to the same country conducted by Dr. Julian A. Steyermark, assistant curator. Emmet R. Blake, assistant curator of birds, and Melvin A. Traylor, Jr., associate in ornithology, carried out a successful ornithological expedition in the southwest. Several specimens of one of the earliest large mammals to walk the earth, the rare *Coryphodon,* and many other fossil animals were collected by a paleontological expedition to the West under Bryan Patterson, assistant curator of paleontology. Mr. Patterson was assisted by James H. Quinn, and others. An important mineral collection was assembled by Bryant Mather, assistant curator of mineralogy, in various eastern states; mammals of the Mount Tancitaro area were collected by Frank C. Wonder on an expedition to Mexico; Mexican insects were obtained by Henry Dybas on a field trip to the Cordoba and Vera Cruz regions; and fossil remains of a ground sloth of the genus *Megalonyx* were collected near London Mills, Illinois, by Assistant Curator Patterson.

Besides the approximately 1,350,000 persons who visited the museum, many additional hundreds of thousands benefited from activities conducted outside of the institution's own building, such as the illustrated lectures and other programs presented by the James Nelson and Anna Louise Raymond Foundation, and the traveling exhibits circulated in the schools by the N. W. Harris Extension.

On May 2, 1941, Field Museum celebrated the twentieth anniversary of its occupation of the present building in Grant Park. Since 1921, more than 25,000,000 persons have entered this structure. More than 5,800,000 others visited the museum during some twenty-five years in its old location in Jackson Park.

For the first time in the history of such institutions as museums in this country, a federal tax on admission charges became effective on October 1. This tax, amounting to three cents each on paid admissions, is now charged to adults, but in the case of children, students, teachers and others to whom the museum is of direct educational importance, the museum itself is paying the cost in order that full benefits to children and to the schools may not be curtailed.

The library of the museum continued to add to its extensive collections of scientific books, which now number approximately 124,000 volumes. A new modernized reading room was prepared for the service of the public.

Boardman Conover and Howard W. Fenton were elected to fill vacancies on the board of trustees. Trustee Albert W. Harris resigned for personal reasons. Two trustees, Brigadier-General Theodore Roosevelt and Ensign Joseph Nash Field, were called to active service in the U. S. armed services. A number of other members of the museum personnel were likewise called into various branches of military service and the museum will hold their positions open for them when they return. Among new appointments to the museum staff were Orr Goodson, assistant to the director; Donald Collier, assistant curator of ethnology; Melvin A. Traylor, Jr., associate in ornithology; Elizabeth Best, guide-lecturer in the Raymond Foundation; and John Janecek, illustrator.

CLIFFORD C. GREGG

SPECIAL ARTICLES

"PEPSITENSIN"—A HYPERTENSINLIKE SUBSTANCE PRODUCED BY PEPTIC DIGESTION OF PROTEINS

CERTAIN findings suggest that the vasoconstrictor and hypertensive substance which originates under the influence of renin is a polypeptid.[1] We were able

[1] J. M. Muñoz, E. Braun-Menendez, J. C. Fasciolo and L. F. Leloir, *Am. Jour. Med. Sci.,* 200: 608, 1940.