

Construction of protective works recommended by the international board of engineers will cost the United States and Canada together in the neighborhood of \$1,750,000. After the works have been completed there probably will be a nominal maintenance cost, which would be assessed more or less equally upon each country. The costs, as estimated by the engineers, would be divided as follows:

For works at the United States flank of the Horseshoe Falls	\$300,000
Changes and contingencies	150,000
For works at the Canadian flank of the Horseshoe Falls	200,000
Changes and contingencies	100,000
For works in the Chippewa-Grass Island pool.....	800,000
Changes and contingencies	200,000

Congress must pass on the project before it is put into operation and must make an appropriation for the work.

The remedial works proposed by the International Board consist of a combination of excavations and submerged weirs carried from the shores near the flanks of the falls into the adjacent main currents far enough to deflect water to these parts of the falls which in the course of years, due to the natural wearing away of the face of the falls and to the diversion of water for power and sanitary purposes, have become bare. These works would be submerged and would not injure the natural beauty of the spot by giving it a man-made appearance.

The board's investigations, made with the aid of competent geologists, showed a mean rate of recession of the crest of the active part of the fall of 3.7 feet a year since 1842, and of 2.3 feet a year since 1906, indicating that the Horseshoe is now cutting back at a decreasing rate and that the rate will continue to decrease.

MOUNTAIN ZOOLOGICAL STATION OF THE UNIVERSITY OF PENNSYLVANIA

RECOGNIZING the fact that the San Francisco Mountains offer exceptional opportunities for ecological studies in zoology, the trustees of the University of Pennsylvania have designated the laboratory maintained by Dr. Harold S. Colton, at Flagstaff, Arizona, the San Francisco Mountain Zoological Station of the University of Pennsylvania. Dr. Colton has been appointed director of the station.

By next summer space will be provided for three graduate students or investigators. As Dr. Colton is on the faculty of the University of Pennsylvania, graduate work at the station will be considered in residence and may count toward a degree.

Not only does Flagstaff lie close to the mountains but it is also within easy reach of the Painted Desert.

All the faunal zones from the Upper-Sonoran to the Arctic-Alpine are readily accessible. Being on the main lines of the Santa Fe Railroad it is easily reached from the east or west. Flagstaff is a cultural center. Here are located the Lowell Observatory with a good general scientific library; the Southwestern Forest Experiment Station, which has been at work on plant ecology for the past thirteen years; the Northern Arizona Teachers College; and the newly founded Museum of Northern Arizona.

Some of the special problems which may be studied at this station include ecological and faunistic studies of the various mountain pools and desert tanks of the different life zones (a paper is now in the press by Professor William Randolph Taylor, of the Botanical Department of the University of Pennsylvania and by Professor Harold S. Colton on the algae); studies of the different life zones comparing the results with those obtained by Merriam in 1889; studies of the fauna of the lava tunnels and crater lakes; and studies of the fauna of Oak Creek at its different altitudes. Apparatus is also available for the study of the relative activity of wild animals in activity wheels, a beginning having been made by Dr. Colton.

Historically it is quite appropriate that zoological work be sponsored by the University of Pennsylvania in the region of Flagstaff. Dr. S. W. Woodhouse of the class of 1848 (medical) was the first to record the fauna of this region in 1853 while attached as naturalist to Captain Sitgreaves' exploring expedition.

"HUMAN BIOLOGY"

THE writer is the editor and owner of a new journal called *Human Biology—A Record of Research*, to be devoted to the publication of the results of research in the various fields of human biology. The forthcoming publication of this journal has been announced during the past year by Mr. Charles C. Thomas, who is engaged in the publishing business in Springfield, Illinois. Manuscripts for the first number, which had been announced to appear in January, 1929, were sent to Mr. Thomas, at his request, on November 17, 1928. On December 12, 1928, Mr. Thomas informed me by letter that he did not wish to go forward with the publication of *Human Biology*, and asked to be relieved of further responsibility relative to this journal. This request was immediately granted, it being entirely within Mr. Thomas' rights to withdraw at any time prior to the actual issuing of the journal. No criticism is to be attached to Mr. Thomas in this matter, nor is any implied in the statement of facts in this note.

The chief purpose of this note is to announce to the interested public that *Human Biology* will be published by Warwick and York (10 East Center St.,

Baltimore, Maryland), the long-established and well-known publishers of books and journals in the fields of education and psychology. It is expected that the first number of *Human Biology* will appear during the latter part of January, 1929. A detailed announcement regarding the journal will shortly be made by the publishers, Warwick and York, to whom all correspondence relative to subscriptions and other business matters should be addressed. Those who have already subscribed to *Human Biology* through Mr. Thomas will receive the journal as issued, without further action on their part.

JANUARY 7, 1929

RAYMOND PEARL

EXPEDITION OF THE DEPARTMENT OF TROPICAL RESEARCH OF THE NEW YORK ZOOLOGICAL SOCIETY

THE Twelfth Expedition of the Department of Tropical Research of the New York Zoological Society will be under the direction of Dr. William Beebe, and will take the field for six or eight months. The Governor Sir Louis Bols, the Honorable F. G. Gosling and the Legislature of Bermuda have granted to Dr. Beebe the use of the island of Nonsuch as a base for deep-sea work off shore. The financing of the expedition has been assured by the generosity of Mortimer Schiff, Harrison Williams, Burt Massee and others.

The island of Nonsuch consists of five acres, partly wooded, with alternating coral rock and sandy beaches, and is provided with buildings in perfect condition for use as laboratories. Directly off shore, deep water approaches closer to Bermuda than elsewhere, a mile depth being found only two and a half miles beyond the one hundred fathom mark. With the sea-going tug *Gladiolen* daily trawling in from one to two miles of water will be carried on for many months, and by the aid of pressure tanks, dark rooms both on the tug and on shore, and a fully equipped laboratory, the bathypelagic fish will be studied, both alive and dead.

The efficiency of carrying on this work from the deck of a tug was demonstrated by Dr. Beebe during the past summer in the Hudson Gorge, and the richness of the deep-sea life in the particular area off Bermuda was proved several years ago by station hauls of the *Arcturus*. After a thousand net hauls have been drawn in the deep sea off Nonsuch, there should result considerable definite knowledge of the life histories of organisms and the general ecological conditions existing in this black, cold, high-pressured and almost unexplored field of life.

The fish life of the reefs and shallow water will be studied intensively with the aid of diving helmets, submarine cameras and a fleet of six boats, while constant observation will be carried on of certain

limited areas of coral reefs within a few yards of the island. Laboratory work will be confined to observations bearing directly on life histories and ecological associations, and such problems as the osteological development of larval and young fish.

Among the six or eight members of the staff will be John Tee-Van, William Merriam, Gloria Hollister, Helen Tee-Van and others, while Dr. W. K. Gregory, Professor Henry Fairfield Osborn and other scientific men will visit the expedition from time to time.

NEW WORK ON CANCER UNDERTAKEN BY THE AMERICAN COLLEGE OF SURGEONS

At a meeting held on January 4 at the American College of Surgeons, the committee on the Archives of Malignant Diseases discussed methods for beginning a study of the relation of heredity to cancer. Much experimental work extending over many years has been performed on animals, especially on mice, which is said to show a definite influence of heredity on the occurrence of cancer in these animals. It is impossible to experiment in the same way on man, and the only way in which accurate information can be obtained is by the compilation of statistics concerning the families of cancer cases. The study of several generations will necessarily extend over a long period of time.

The personnel of the committee is: Bowman C. Crowell, M.D., Chicago, *chairman*; Herman Bunderson, M.D., Chicago; David J. Davis, M.D., Chicago; Robert B. Greenough, M.D., Boston; Ludvig Hektoen, M.D., Chicago; William J. Mayo, M.D., Rochester; F. A. McJunkin, M.D., Chicago; James P. Simonds, M.D., Chicago; Miss Maud Slye, Ph.D., Chicago; George W. Swift, M.D., Seattle; William H. Welch, M.D., Baltimore; Allen O. Whipple, M.D., New York.

The committee will seek cooperation from surgeons and physicians in all parts of the country, and will permanently file records of cancer cases for future study. These cases will all be authentic cases of cancer, as proved by microscopic examination of tissue which will be filed with the records. Special attention will be paid to the family histories and a record of health conditions will be made. In this way there will be compiled data bearing on practically all aspects of cancer, which will be available for study of any of its phases.

The influence which the American College of Surgeons has obtained through its work in hospital standardization will enable it to secure the cooperation of the nearly two thousand hospitals in the country which have been approved by the college.

According to Dr. Franklin H. Martin, president of the American College of Surgeons, that organization now conducts a registry of bone sarcoma which is unique in character and extent, and is looked to by