tornado is in no way a cause of the Florida activity. Energy is not retroactive. Event A, happening to-day, can not be influenced by event B, happening to-morrow. A and B may influence C, and in Warren's example the shoring up of the houses is an important cause of a later event which is "intact houses" after the tornado. Warren, we believe, has interpreted the effects of past experience, learning, as being the effect of some event which may or may not occur at some future time.

Warren has not demonstrated any new causes or principles in evolution. His examples are not energy manifestations, though he appears to use them as such. Any search for causal factors must be directed towards the possible sources from which organisms may derive energy. As has been pointed out by one of us,[4] there seems only one source available for all organisms, and this, the energy of the sunlight, is the motive force behind the appearance and evolution of organisms on the face of the earth. The series of living organisms is a series upon which work has been done, and in the source of this work we are to seek for the cause of evolution.

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SPECIAL CORRESPONDENCE

THE PALEOBOTANICAL EXCURSION OF THE FIFTH INTERNATIONAL BOTANICAL CONGRESS

IMMEDIATELY following the close of the Fifth International Botanical Congress at Cambridge, England, on August 23, 1930, a tour was undertaken for the purpose of visiting some of the fossil plant localities in England and Wales. The tour was organized by Dr. H. H. Thomas, of Cambridge, and was conducted by Mr. W. N. Edwards, of the British Museum.

The party left Cambridge by motor bus on the afternoon of August 23 for Cayton Bay, near Scarborough, on the Yorkshire coast. Here, under the direction of Dr. Thomas, the Upper Jurassic beds containing the oldest known angiosperms, the Caytoniales, were visited and an opportunity was given to collect material.

The party then proceeded to Leeds where, under the direction of Dr. Hudson, several localities were visited for upper Carboniferous plants. Leaving Leeds the route followed was across the Pennine Moors to Manchester, where two days were spent. Besides visiting the coal mines in the vicinity of Manchester the party was entertained at tea by the botany department of the university and an opportunity was given to examine the magnificent fossil collection in the geological museum.

The party was then accompanied by Dr. John Walton, of Manchester, to north Wales. The first objective was the Teilia quarry near the village of Gwaenysgor for lower Carboniferous plants. Afterwards the Archeosigillaria beds at Denbigh were visited.

The south Wales coal field was the next objective. The route followed was along the scenic highway to Llangollen, then through Shrewsbury and Brecon to Swansea, which is one of the two centers of the coal industry in south Wales. On arriving at Swansea the party was entertained at tea by the mayor and at luncheon the next day by Captain H. Rees, of the Cefn Coed Colliery at Crynant. During the two days following the arrival at Swansea the party was conducted by Dr. A. E. Trueman, of the University College at Swansea, and Miss Emily Dix, of London. Numerous coal mines in the middle and transition Coal Measures were visited and rather extensive collections were made. On the evening of the last day the party was entertained at dinner by the Swansea District of the Monmouthshire and South Wales Coal Owners' Association and the South Wales Institute of Engineers.

The trip was concluded by visiting the mines in the vicinity of Bristol, Gloucester and Bath for upper Carboniferous plants under the direction of Dr. Crookall, of the British Geological Survey. The party then proceeded to London.

The participants of the tour were the following: Dr. T. G. Halle and Baron von Post (Stockholm); Dr. O. A. Høeg (Trondhjem); Professor A. Renier and Mme. Ledoux (Brussels); Professor and Mme. Jongmans (Heerlen); Professor W. Gothan (Berlin); Professor and Frau Hirmer (München); Dr. Sze (China); Professor Rudolph (Prague); Mr. W. N. Edwards and Miss E. Dix (London); Dr. G. R. Wieland (Yale), and Dr. C. A. Arnold (Michigan). Professor B. Sahni (Lucknow) and Dr. J. Pia (Vienna) accompanied the party for the first couple of days.

CHESTER A. ARNOLD

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SUMMER INSTITUTE FOR BIOLOGICAL RESEARCH AT AMOY, CHINA

THE first attempt at a marine biological station in China was begun this summer at Amoy in southeast-

[4] F. H. Pike, *Ecology*, 10: 167–176, 1929.

ern China. For years the biologists in China have been exploring different parts of the coast to decide where such a station could best be placed. The north China coast is singularly poor faunistically. Here at Amoy the marine fauna is rich and various, a transition region between the Palearctic and oriental forms. There are sandy beaches, mud flats and rocky islands, and near here is the famous amphioxus fishing ground where amphioxus is caught by the ton and sold for food at four cents gold a pound.

Amoy has a university situated directly on the coast, with a modern well-equipped biology laboratory building. Dr. T. Y. Chen (one of Professor T. H. Morgan's students), who is now professor of zoology at Amoy University, with the cooperation of President Lim Boon-Keng, a university president with a real interest in scientific development, and the financial assistance of the China Foundation for the Promotion of Education and Culture, of which Mr. H. C. Zen is chairman, has opened the Amoy Biological Laboratory for summer research work and invited a group of about twenty-five biologists as guests the past summer, to initiate a China Marine Laboratory. The group has the usual international character of every science gathering in China—Chinese, American, British and German. We have been most hospitably entertained by the university, living in the buildings and eating at a common mess. Fifteen institutions are represented: Northeastern University in Mukden, Yenching University and Peking Union Medical College in Peking, Ginling College in Nanking, Soochow University, Shanghai College and Chi-Nan University in Shanghai, Hangchow College, Nanchang Academy, Fukien Christian University in Foochow, Amoy University and Anglo-Chinese College in Amoy, Lingnan University and Sun Yat Sen University in Canton, and the University of Washington in Seattle.

The research has been of several types, faunistic, experimental and cytological, concentrating on living amphioxus, but including also Teredo, Squilla, fishes, amphibia, insects, protozoa. The actual results of this first summer may not be great, but it is a beginning.

Dr. Chen is starting a supply service to furnish Chinese marine forms to the laboratories of China. This ought to be a good supplement to the world supply of amphioxus.

This whole venture is an instance of President Lim's scientific enthusiasm and one more of the far-sighted ways in which the China Foundation is encouraging science development in China. Biologists on sabbatical trips around the world ought to stop at Amoy. It lies half way between Shanghai and Hong Kong and can be reached by coast steamer from either port.

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QUOTATIONS

WARD'S NATURAL SCIENCE ESTABLISHMENT

THE cradle of taxidermy in this country was destroyed when Ward's Natural Science Establishment in Rochester, with its irreplaceable collections, went up in smoke. Many a man who later became famous as a naturalist started his career as an apprentice at Ward's, stuffing birds and fishes and four-legged beasts. One of them, the late Carl Akeley, walked through the jaws of the sperm whale at the entrance when a youth of 19 and gleefully accepted a job at $3.50 a week, although the cheapest board and lodging he could find in Rochester cost him half a dollar more. His book, "In Brightest Africa," contains a list of some of the young enthusiasts he knew there or who preceded him—E. N. Gueret, George K. Cherrie, J. William Critchley, H. C. Denslow, William T. Hornaday, Henry L. Ward, Frederick S. Webster, Frederic A. Lucas, William Morton Wheeler. The roster reads like a page from a naturalist's Who's Who.

Taxidermy in those days was rather a trade than an art. The skin of an animal was first treated with salt, alum and arsenical soap. After the bones had been wired and put in there was nothing more to do but hang the body upside down and stuff it with straw until it would hold no more. No attempt was made to put the animal in a natural attitude. The reason for this crude work, Akeley explains, was not that Professor Ward and his assistants knew no better, but that nobody would pay for better work. The museums for which the establishment prepared specimens cared more for purely scientific data than for exhibitions that would interest the public. They had no taxidermists of their own and generally preferred collections of skins and skeletons to mounted groups. Ward's men would tackle anything from a humming bird to an elephant. Their largest job was the stuffing of Barnum's mighty Jumbo. The mounted skin of this most famous of pachyderms is at Tufts College; its skeleton is in the American Museum of Natural History in this city.

For the present artistic perfection and scientific accuracy of taxidermy Akeley deserves a great share of the credit. He invented many new methods. He was one of the first to realize the importance of a