maintain themselves against the eurypterids, might return to the lowlands—and thus appear at last in the fossil record.

I would by no means claim that all the facts of eurypterid and early vertebrate history are to be explained as due to the interrelations of these two groups. It is probable that the eurypterids had other sources of food than that supplied by the vertebrates, and many other factors may have influenced their decline and fall. Nor do I believe that the early steps in vertebrate evolution are to be explained entirely and simply as related to a defense against eurypterids. But it is impossible to believe that these two groups could have existed in close contact for many millions of years without a considerable influence upon each other. And it is highly probable that many facts regarding the motility, habitat and particularly the skeletal development of the early vertebrates are intimately related to the necessity of escape from eurypterid enemies.

SCIENTIFIC EVENTS

THE BUCKSTON BROWNE SURGICAL RESEARCH FARM

ACCORDING to the report in the London *Times*, the new Buckston Browne Surgical Research Farm at Down, near Farnborough, was opened on July 12 by Sir Holburt Waring, president of the Royal College of Surgeons of England. The establishment has been endowed and given to the college, at a total cost of £100,000, by Sir Buckston Browne, R.C.S. It comprises a residential hostel for surgical and biological workers, a separate building containing laboratories and accessory rooms, and 13 acres of grounds.

The estate adjoins that of Down House, where Charles Darwin lived and worked for 40 years and died in 1882. Down House represents another great benefaction of Sir Buckston Browne, by whom, as a tablet there records, it was "acquired, restored, endowed and presented to the British Association as trustee for the nation" five years ago. Sir Buckston Browne attended the opening. Among others present were Sir Arthur Keith, the director of the establishment, Lord and Lady Moynihan, Sir John and Lady Bland-Sutton, Sir Charles Sherrington, Professor E. L. Kennaway, Professor G. Grey Turner and Mr. O. J. R. Howarth, secretary of the British Association.

Sir Holburt Waring described the research farm as a magnificent donation in the interests of the advancement of surgery by one of their own profession, and observed that it was to the association of the surgeon with the biologist that they looked for the great advances of surgery in the future. He said that during recent decades surgery had made most of its advances through improved technique and the application of Listerian principles. More recently, however, radiological methods (x-ray and radium), together with biochemical and biophysical processes, had played an increasing and very important rôle in the diagnosis and treatment of disease, and in the understanding of the associated biological factors. They hoped to solve there by experimental methods many of the fundamental problems which beset surgery to-day. It was possible that many might be solved; others would prove exceedingly difficult.

Sir Buckston Browne said that they were assembled upon a remarkable spot. On the other side of the hedge had lived and worked Charles Darwin, the great emancipator of the human mind; this afternoon they had the privilege and joy of bringing here the genius of John Hunter, one of the great emancipators of the human body. One of Hunter's pupils was Edward Jenner, who worked at the prevention and mitigation of smallpox. The world quickly forgot its benefactors and their benefactions, and few even of those present realized the enormous debt they owed to Jenner. Many of them would have been dead long ago had it not been for Edward Jenner; many would have been sitting there with horrible scars. The world nearly lost Lord Lister from smallpox.

He would like to say one word about those who opposed all experimentation on animals. He maintained that the whole of the animal kingdom was as precious to the medical profession as to any other collection of men. Their whole lives were spent in the alleviation of pain and the prolongation of life; and nearly all that was done for man—who was only the head of the animal kingdom—was now done in our veterinary colleges and hospitals.

Sir Arthur Keith thanked the donor of the farm for "the most generous benefaction and the best aid to medicine that has been made in my time."

THE DUTCH ELM DISEASE IN NEW JERSEY

THE Dutch elm disease has broken out anew in the United States. This time it has been found in the state of New Jersey. Sixty-nine infected trees have been found scattered among the elms of an area of perhaps a hundred and fifty square miles in Essex, Hudson and Passaic counties, according to a statement given out by R. Kent Beattie, of the Bureau of Plant Industry, who has returned to Washington after investigating the outbreak in New Jersey. The

Public Works Administration, acting under the National Industrial Recovery Act, has authorized the Department of Agriculture to spend up to $80,000 to combat the disease.

This new epidemic infection is in the vicinity of our largest seaport and is in an area where the elm is one of the most important trees. It is also feared that the disease may be present in other localities from which it has not yet been reported.

"Watch for wilting or yellow or brown leaves accompanied by brown streaks in the young wood," Mr. Beattie advises. "When such cases are found, cut pieces of the infected twigs as big as a lead pencil and send them to the Dutch Elm Disease Laboratory, care Experiment Station, Wooster, Ohio. If you are in the infected region or its vicinity send your specimens to, or communicate with, the Dutch Elm Disease Office, care Shade Tree Commission, City Hall, East Orange, N. J., telephone No. Orange 3–4100. There are other diseases with the same symptoms and we can not be sure of the cause of the trouble till the specimens have been cultured."

The Cleveland, Ohio, infection of this disease is said to be well in hand. Three trees were found in 1930, four in 1931, none in 1932 and one tree thus far this year. Only one tree was ever found in Cincinnati and that in 1930. These are the only infections found on this continent till the outbreak in New Jersey.

All the New Jersey state and local authorities are cooperating with the federal department to find and eradicate this disease before it spreads further. A force of men is already at work in the region.

According to information given to the *United States Daily* by Mr. Beattie, it is not known how the disease was brought to this country. It was at first thought that it might have been brought in by importations of European nursery stock, but all importations have been investigated and it has been found that was not the source of the infection. No conclusions have been reached in investigations which have been conducted to discover how the disease is spread. It is thought possible that the European elm-bark beetle may be a factor.

The Dutch elm disease is comparatively new in Europe. It was first discovered in The Netherlands in 1919. Since that time it has spread to most of Europe, creating havoc with European elms. It has been found that the American elm is particularly susceptible to injury.

Experiments conducted by government officials show that all the major species of elms in this country are susceptible. Besides the elms it also affects the Japanese keyaki tree. Chinese elms have been found to be resistant to the infection.

In emphasizing the danger of the disease spreading over the entire country, Mr. Beattie cited the history of the chestnut blight. This disease, discovered in New York City in 1904, has killed practically all the chestnuts in the northeastern part of the United States and has spread to the northernmost limits of chestnut growth. It is now killing chestnut trees in the southern states. The Dutch elm disease kills an infected tree in one to two years.

The U. S. Department of Agriculture Circular 170-C, entitled "The Dutch Elm Disease," gives detailed information in regard to the disease.

THE RAINBOW BRIDGE-MONUMENT VALLEY EXPEDITION

A RECONNAISSANCE, designed to contribute to the correlation and extension of work already done by Jackson, Gregory, the Wetherills, Guernsey, Bernheimer, Cummings, Myser, Gladwin and others, is now being made in the northern Navajo country, just south of the San Juan and Colorado Rivers, by what is believed to be the largest and in some respects the best equipped scientific party thus far sent into the southwestern United States. It calls itself the Rainbow Bridge-Monument Valley Expedition, and is under the promotion and general direction of Ansel F. Hall, chief forester of the National Park Service, which, without subvention, gives the enterprise sponsorship. The expedition will submit a report to the secretary of the Department of the Interior, through the director of the National Park Service. Besides a number of supporting amateur scientists from universities and school faculties, with packers and camp assistants of the same quality, the expert personnel comprises Lyndon L. Hargrave, assistant director and archeologist of the Museum of Northern Arizona at Flagstaff; Alonzo W. Pond, archeologist to the most recent Andrews expedition into Mongolia, and Benj. Wetherill, of Kayenta, Arizona; Thorn L. Mayes, engineer, General Electric Company, Oakland, California; Dr. C. M. Wheeler, department of entomology; Dr. T. H. Eaton, for the Museum of Vertebrate Zoology, and V. L. VanderHoof, curator of the Museum of Paleontology, all of the University of California, and Robert Kissack, cinematographer, department of visual education, University of Minnesota. Among assistant leaders, collectors, etc., are Elbert Smith and Robert Thomas, mapping, University of California; Marvin Darsie and Morgan Boyers, botany and zoology, University of California; Edward Harrington, geology, University of Pittsburgh; Charles R. Brady, geology, Pratt Institute; Charles Harkness, University of California, and J. C. Fisher Motz, Carnegie Institute, architects, archeological draughting, W. L. Lowrey, University of California, and Winters High School, geology, and Jesse Peter,