CONCLUSION

In conclusion, it would seem most desirable to emphasize the fact that proper land use requires planning first and then action. Our plans must be safe and sound, if they are to be put into effect successfully. We must not plan narrowly, locally or with too much attention to the immediate present. To be adequate the plans must take into account many things. First of all, the soil itself, its characteristics, capabilities and possibilities. Then the proper use of it in the interests of the future. This involves the elimination of the uneconomic, submarginal areas and the purchase by the government of such areas for pastures, forests, parks or recreation or wild-life areas. It also involves a planned farm use of the land in accordance with its abilities to support pasture or cultivated crops. The whole problem of live stock production enters the picture here, the type of live stock, the system of farming, etc. The relation of industry and close tie-up to agriculture demands a sound land use policy. Part-time farming has a direct relationship to industry and may be important in the future. Subsistence farming may also prove desirable. Finally, the relation of land use to taxation must be borne in mind, and the solution of the tax problem must come along to permit of the utmost success in the adoption of any land use program.

The important thing to remember is that the land is our one and only real heritage. Its proper use is of national significance and demands the attention of all our people. We must take care of what we have, not only from the standpoint of selfish interests, but also in the interest of succeeding generations. We must have a land use plan, and then we must have action.

OBITUARY

IN HONOR OF ROBERT DeCOURCY WARD

A MEMORIAL in the form of a comprehensive climatological collection has been assembled in honor of the late Professor Robert DeCourcy Ward, of Harvard University. For forty years he was a teacher of climatology and for nearly thirty years, from the time he published an expanded translation of "Hann's Handbook of Climatology," was generally recognized as America's leading climatologist. His scholarly output in this field was large and widely published both in journals and as books.

The Robert DeCourcy Ward Climatological Collection of Harvard University includes reference books, largely Professor Ward's own reference library, and climatographic publications from weather services all over the world, which have been brought together from the libraries of the Harvard College Observatory and the Blue Hill Observatory. This climatological reference library appears to be the most extensive in the United States outside of that in the central office of the U. S. Weather Bureau in Washington. The publications having been collected over a period of nearly a century embrace a large part of the world's printed climatological data. The collection is at present housed in the Institute of Geographical Exploration, in Cambridge, Mass. An endowment for the maintenance of this collection has been started by the children and sisters of Professor Ward, with a contribution of $1,000.

PETER C. KAISEN

PETER C. KAISEN, the veteran collector and preparator of vertebrate fossils, died in New York City on March 18, at the age of sixty-six years.

In 1897 Mr. Kaisen, a Dane by birth, was a foreman on a Union Pacific Railway section at Aurora, Wyoming, where he came in contact with the American Museum expedition which was that year inaugurating the dinosaur work of that institution, along the famous Como Bluff. The following year he joined the Museum party, which was continuing work in that region, and that association with the American Museum of Natural History, begun in 1898, remained unbroken until his death.

Following several years' work in the Jurassic dinosaur beds of southern Wyoming, Mr. Kaisen was transferred to the Montana field and later engaged for several seasons in the exploration, under the direction of Dr. Barnum Brown, of that richest of all dinosaur fields, the Red Deer River Valley of Alberta. Subsequently he made expeditions to Alaska and Mongolia and in recent years had been engaged in the Lower Cretaceous fields of southern Montana and northern Wyoming.

Through his energy and his skill, both in the field and in the laboratory, by a devotion to the task in hand and by a steadfast loyalty to his institution, Mr. Kaisen has placed the Department of Vertebrate Paleontology very much in his debt, and in his passing our branch of science has lost one of its outstanding technicians.

W. G.

MEMORIALS AND RECENT DEATHS

MEMORIAL exercises in honor of Lafayette Benedict Mendel, 1872–1935, Sterling professor of physiological chemistry at Yale University, will be held at 4:30 P.M. on Thursday, April 16, in Strathcona Hall, Yale University. The speakers will be President James

Rowland Angell, who will preside; Russell Henry Chittenden, Frederic Collin Walcott and Phoebus Aaron Levene.

SIR JOSEPH PETAVEL, engineer and physicist, director of the National Physical Laboratory at Teddington, England, died on March 31, at the age of sixty-two years.

SIR ARCHIBALD GARROD, formerly regius professor of medicine at the University of Oxford, died on March 29, at the age of seventy-eight years. Sir Archibald was known for his work on chemical problems connected with metabolic changes in disease. He was elected a fellow of the Royal Society in 1910.

PERCY FRY KENDALL, professor emeritus of geology at the University of Leeds, has died at the age of seventy-nine years.

THE death is announced of Professor Emeritus Fredericq, of Liége. He was eighty-five years of age and had been professor of physiology in the University of Liége since 1879.

DR. LUDWIG DÖDERLEIN, the German zoologist, has died at the age of eighty-one years. He was for many years keeper of the Strasburg Zoological Museum and since 1921 had been honorary professor of zoology at the University of Munich.

SCIENTIFIC EVENTS

EXHIBITION OF VERY LOW TEMPERATURES AT SOUTH KENSINGTON

LORD RAYLEIGH presided on March 4 when Sir William Bragg, president of the Royal Society, opened the Exhibition of Very Low Temperatures, their Attainment and Uses, at the Science Museum, South Kensington. The London *Times* states that one of those present was Lady Ramsay, widow of Sir William Ramsay, one of the discoverers of the gas argon and a pioneer in this branch of science. The chairman, in introducing Sir William Bragg, spoke of his position as director of the Royal Institution, the historic home of low temperature research, where Faraday carried out his experiments. He said:

> The museum used to be a place where nothing changed. It should be something living, and should show not only the past, but also the way in which modern thought was tending and technique improving. This was especially important in such a time of change and development as the present. There was nothing to equal visual demonstration to show the progress of the application of knowledge; and Count Rumford's original idea in founding the British Institution was to make it a science museum, with a display of models working. The idea broke down then because the social conditions of the time were against it.
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> The present exhibition was devoted to one of the strangest developments of human thought and experiment. He recalled his own original astonishment at the idea of an absolute zero of temperature, and the state of a body when all its heat had been extracted. The same attraction lay in the search for the absolute zero as in trying to reach the top of Mount Everest.
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> Even to the non-scientist it was strange to think of air running about like water, of rubber as brittle as porcelain, or of a hammer made out of quicksilver.

Sir William concluded by referring to the long list of famous workers in this development of modern science, and to the great industrial importance of liquid oxygen and of other gases, such as argon.

The exhibition consists of two parts. Up the center of the hall are arranged the historical exhibits, beginning with the original apparatus used in 1823 by Faraday in his experiments for the liquefaction of gases. Other original apparatus shown includes that used by Joule and Kelvin in 1853 for cooling certain gases by allowing them to expand through a porous plug, and that employed in 1860 by Thomas Andrews to investigate the "critical state" of various substances.

The contemporary development of low temperature research, and of its applications, is shown in a series of exhibits arranged round the walls of the room. Separate sections are devoted to temperature reduction, temperature and pressure measurement, liquefaction and solidification, storage and transport and practical applications.

Among the exhibits are a model of a plant for the manufacture of solid carbon dioxide—a process upon which, among many more important things, the supply of cheap ice-cream depends; a selection of insulating materials, arranged to show the various thicknesses required to obtain an equal degree of insulation, and a container for transporting liquid oxygen. Of practical applications of the results of low temperature processes conspicuous examples are mine rescue appliances, airmen's breathing apparatus for use at high altitudes and the refrigeration of food-stuffs.

A series of pictures at one end of the hall show the various uses of oxygen, and one of them, the cutting of metal, is demonstrated by an actual plant, of which the flame cuts steel as quickly as a tailor can cut cloth.

Many of the exhibits are of that kind which the visitor may work for himself by pressing a button. A pamphlet describing the exhibition (which will remain