on July 17 by Dr. Merriam. The structure was built and equipped through the cooperation of a number of educational organizations, among which were the Carnegie Institution of Washington, the Laura Spelman Rockefeller Memorial, the American Association of Museums and the National Academy of Sciences. Constructed of native weathered stone and logs, the station harmonizes with the landscape features and seems almost to be an integral part of the canyon walls.

The importance of establishing libraries in the national parks, both in connection with the educational work and for the use of the public generally, was established by the use of the library maintained in connection with the Yosemite Museum. Based on this, the American Association of Museums interested the American Library Association to such an extent that a committee was appointed to establish libraries in the national parks.

SERVICE OF THE WEATHER BUREAU TO AVIATION

METEOROLOGY in aid of aviation and marine meteorology—two of the many activities of the Weather Bureau of the U. S. Department of Agriculture—are discussed by Dr. C. F. Marvin, chief of the bureau, in his annual report. He says:

> Since 1926 funds have been included in the regular appropriations of the department for assigning and maintaining on duty at every important airport one or more skilled meteorologists, whose duties require them to receive from the central organization of the Weather Bureau the fullest possible advices, reports, observations, etc., including forecasts and warnings, and to pass these on to pilots of airplanes at the time of and in accordance with the flight immediately in contemplation.
>
> The basis of advices and warnings to pilots is necessarily derived from the great network of meteorological stations that has been built up by the Weather Bureau throughout past years. In some cases these stations are rather widely distributed. Moreover, observations are made regularly only at 8 A. M. and 8 P. M. For the needs of aeronautics, more intensive and special stations are required, especially in certain regions. To make provisions for this 137 ground stations have been established at frequent intervals all along the airways set up by the Department of Commerce, and the whole machinery of operation is gradually being improved to make the service more and more effective.
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> There is a growing demand for four daily observations from meteorological stations over the entire globe, instead of two. The hours for these observations are quite likely to be advanced in the near future in the United States so as to occur at 1 and 7 A. M. and at 1 and 7 P. M.
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> A few years ago the entire scheme for collecting by telegraph the meteorological reports from field stations was reorganized. A new and more flexible system is now in operation.
>
> In no other field has the demand for meteorological help for aviation been more pressing than in connection with transoceanic air navigation. Agreements are under way with other great maritime nations for better organizing ocean meteorological observations by the selection of a certain number of ships of each nationality which shall uniformly make and distribute radio observations twice, or perhaps four times a day while on the high seas. . . . The highest efficiency and accuracy in formulating weather forecasts and warnings is only attainable when the meteorologist has before him a complete picture of the weather conditions over the whole surface of the globe, or at least over the whole surface of the Northern or Southern Hemisphere. The development of an international meteorological oceanic service along these lines is perhaps the most urgent technical problem concerning meteorology at the present time.

EPILEPSY COMMISSION OF THE HARVARD MEDICAL SCHOOL

A CITY-WIDE campaign against epilepsy has just been launched by the Harvard Medical School with the appointment of an Epilepsy Commission. Funds are now being collected by the commission, and research and experiment will be begun shortly at the Medical School and at various Boston hospitals in an investigation of a disease which now has 390,000 victims in the United States.

The commission, as appointed by the Corporation of Harvard University, contains the following members: Dr. Walter B. Cannon, Dr. Fritz B. Talbot, Dr. Bronson Crothers, Mr. Robert Amory, Dr. Stanley Cobb and Mr. Ralph Lowell. Mr. Charles Francis Adams is acting as treasurer for the commission in its drive for funds.

In a statement describing some of the "baffling problems" facing the commission in its campaign against epilepsy, Dr. Stanley Cobb, Bullard professor of neuropathology, writes as follows:

> This commission has been appointed to promote a continuous study of the convulsive disorders over a period of years. The term epilepsy is used for brevity, but it has been demonstrated in recent years that epilepsy is not a disease—it is a type of reaction of the human body to different abnormal stimulations; it has various causes. Thus the field of study must be broadened to include the convulsions of childhood, the eclampsia of pregnancy, uremia, asphyxia and other allied conditions. When these are all better understood there will be more chance of helping the chronic sufferer—the epileptic.
>
> It is estimated that there are 390,000 epileptics in the United States. This represents an enormous amount of suffering, especially when one realizes that not only the patient suffers but the whole family, for the fear of a catastrophe is ever hanging over the household, coloring the lives of all. The common convulsions of childhood are less distressing but more common; one survey showed that 7 per cent. of children had had convulsions before

the age of four. At a large epileptic hospital it was found that about half of the patients began their convulsions before the age of four. Just what the relationship may be between this acute condition and the chronic epilepsy of adults is apt to be elicited. Such are a few of the problems presented; their importance is obvious; they are the more challenging to medical science because they are so baffling.

During the last few years advances in treatment have been made. Chief among them is the discovery that acidosis tends to stop convulsions. Many children have been completely relieved by the practical application through diet of this chemical knowledge; in adults the diet is seldom of avail. It is obvious that the processes underlying these phenomena are not completely understood, and it is hoped that if a more complete understanding of them is obtained dietary treatment may be more universally successful. Another important problem is the relationship of the oxygen supply of the nerve cell to convulsive seizures. Recent work indicates that this may be the crux of the question. Studies concerning toxins absorbed from bacteria in the bowels are being carried out; such auto-intoxications may be the exciting cause of convulsions. Psychological factors are also important, and have been studied, but not extensively enough.

For more than five years work along these lines has been carried on at the Harvard Medical School, at the Massachusetts General Hospital, the Children's Hospital and at the Boston City Hospital. The appointment of the Harvard Epilepsy Commission makes possible a coordination and continuity of the work. No valuable results can be expected from research of this kind unless it be carried on for years, so the promotion of a permanent commission is a most important advance. Funds must be raised to carry on the investigations. At present about $10,000 a year is needed, but if generous support is given the scope of the work can be enlarged greatly.

FOREIGN SCIENTIFIC MEN AT THE U. S. FOREST PRODUCTS LABORATORY

THE ranks of the foreign scientists working on American wood-utilization problems in the Forest Products Laboratory of the United States Department of Agriculture at Madison, Wisconsin, were augmented recently by the arrival of five men sent by government and private agencies in Australia, Finland, Poland and Sweden.

H. B. Somerset, Melbourne, Australia, will work as a member of the pulp and paper staff of the Forest Products Laboratory for a period of one year before returning to Australia to take a position in a paper mill operating on eucalyptus.

C. Ellis, forest economist to the Queensland Forest Service, Brisbane, Australia, will make his headquarters at the laboratory for the next twelve to eighteen months, studying its organization and methods, and using it as a point of departure for trips to various wood-using industries of the United States and Canada.

K. Kuoppamaki, mechanical engineer from Finland, has spent some time at the laboratory studying the manufacture of plywood.

Dr. J. Wiertelak, assistant in the institute of chemistry in the University of Poznan, Poland, is beginning a year of study at the Forest Products Laboratory on a scholarship of the Polish Ministry of Education. Dr. Wiertelak's studies will be principally on the chemistry of wood.

Carl Gustaf Strokirk, Harnosand, Sweden, is at the laboratory on a grant from the University of Commerce, Stockholm. Mr. Strokirk will remain at the Madison Laboratory until May studying the manufacture of plywood and other wood-utilization problems. During the summer of 1929 he will obtain employment in American woodworking plants to observe American methods. He will return to the laboratory next fall.

J. E. Cummins and H. E. Dadswell, Commonwealth (Australian) Council for Scientific and Industrial Research, are nearing the end of a two-years' study at the Forest Products Laboratory.

SCIENTIFIC NOTES AND NEWS

OFFICERS of the Royal Society elected at the anniversary meeting on November 30 are: *President,* Sir Ernest Rutherford; *Treasurer,* Sir David Prain; *Secretaries,* Sir James Jeans and Dr. H. H. Dale; *Foreign Secretary,* Sir Henry Lyons; *Other Members of Council,* Dr. F. A. Bather, Dr. C. Bolton, Dr. C. G. Douglas, Mr. R. H. Fowler, Professor E. W. Hobson, Sir Frederick Hopkins, Professor A. Lapworth, Professor J. C. G. Ledingham, Professor F. A. Lindemann, Dr. P. C. Mitchell, Professor J. C. Philip, Professor A. C. Seward, Professor G. Elliot Smith, Sir Thomas Stanton, Mr. A. A. C. Swinton and Professor C. T. R. Wilson.

BRITISH scientific societies have elected presidents as follows: The London Mathematical Society, Dr. Edmund T. Whittaker, F.R.S., professor of mathematics in the University of Edinburgh; the Mineralogical Society, Dr. G. T. Prior, F.R.S., keeper of the department of minerals of the British Museum; the Cambridge Philosophical Society, Mr. G. Udny Yule, F.R.S., lecturer in statistics in the University of Cambridge, and the Philosophical Society of the University of Durham, Sir Charles A. Parsons, F.R.S., chairman of the engineering works of C. A. Parsons and Company.

DR. EDWARD FRANCIS, surgeon of the U. S. Public Health Service, who isolated the tularemia germ and