and, as the methods of statistical mechanics become more widely applied, the greater becomes the need for adequate check and control through the facts of observation. An excellent illustration is afforded by one of the important discoveries of recent years, that the molecule of oxygen, the basis of the whole system of the atomic weights of the elements, exists in two forms instead of the single form universally assumed. The discovery belongs to the field of chemistry; but the practical evidence was afforded by astronomical observations at Mount Wilson; and its interpretation is due to the theoretical physicists of the University of California working through intricate mathematical processes. I think it may justly be said that the Carnegie Institution has been a leader in the realization of this close interdependence of the various fields of science, and of the power for research of groups of coordinated investigators. Many of us will see tomorrow at Stanford University the dedication of a new laboratory in which will center the studies of men of wide diversity of training who are joining in a common effort to solve many of the great problems of the life and growth of plants and their adaptation to environment.

A very interesting development in modern science has been the remarkable boldness in the use of hypothesis, and the success which in nearly every case has attended it. A period which has produced the theory of relativity with its profound implications in science and philosophy, and has solved the age-old problem of the source of energy in the universe through the well-established theory of the conversion of matter into radiation, is certain to rank high in any history of the triumphs of the human mind. Although a speculative hypothesis of itself is often futile, that which is founded upon the facts of observation, and is developed to keep pace with them, becomes frequently the most powerful weapon of research within the capacity of science to use. It is this application of the highly trained imagination to the facts of nature which has made so extraordinarily productive the years within which we are living.

In any summary of the contribution of physical science to society chief stress is often laid upon the fundamental nature of the relationship of pure science to all inventions and processes which tend to increase the comfort and the productivity of men, and their ability to control and direct the forces of nature. The familiar example of the growth of the entire electrical industry of the world out of the scientific researches of Faraday is only one of innumerable instances. But the intangible effects of science are in many respects more interesting. Of its function in satisfying one of the deepest interests of life, the joy of discovery and the love of knowledge, I have already spoken. In its influence upon the judgment of men, their reasoning powers and the skilful weighing of evidence, its value is extraordinarily great. But perhaps beyond all else is the kindling and stimulation of the imagination. The child clothes with his imagery the simple things of nature; the intelligent man finds the phenomena of nature wonderful beyond all conception, and in the reaction to them of the powers of his imagination he finds one of the most enduring values of life.

Of the many and varied contributions of the Carnegie Institution to physical science it is impossible to speak in detail. They form an integral and vital part of the history of knowledge. Its investigators have studied deeply into the mysteries of life and the development and modification of species; they have searched into the complex processes by which the animal and vegetable life of the earth derives its growth and energy; they have added greatly to our knowledge of the past history of life upon the earth, and have welded links in its unbroken chain; they have studied the powerful forces within the earth, and have charted the magnetic field about it; they have numbered the stars and pushed far back the frontiers of the universe; they have penetrated deeply into the mysteries of matter and the world of space and time. Extending through all of these and many other investigations has been the realization of the unity of science and of the essential part it plays in the life of the race. On this anniversary of the establishment of the Carnegie Institution it may justly be said to have fulfilled amply the hopes of its founder in carrying the torch of learning and spreading its light among men.

WALTER S. ADAMS

OBITUARY

RECENT DEATHS

DR. MORTON PRINCE, professor of neurology at Tufts College and later associate professor of abnormal and dynamic psychology at Harvard University, died on August 31 in his sixty-fifth year.

DEAN FREDERICK FRANKLIN MOON, head of the New York State College of Forestry for nine years, died following an operation on September 3 at the age of forty-nine years. Mr. Franklin D. Roosevelt, governor of New York State, wrote as follows: "The sudden death of Franklin Moon, dean of the State College of Forestry, comes to me as a great shock. I saw him not long ago and he seemed to be in fine health and spirits and very much interested in the program of reforestation for the State of New York. Under Dean Moon the State College of Forestry at

Syracuse has become one of the most important institutions of its kind in America. The effect of the college instruction under his supervision has been felt through its graduates not only in this State but in every part of the country which is actively engaged in the rebuilding of our depleted forests. The State has suffered a great loss in the passing of Dean Moon in the prime of his usefulness."

THE deaths are announced of Dr. Louis Lejeune, professor of radiology and electrotherapy at Liége, and of Dr. Georg Kassner, professor of pharmaceutical chemistry at Münster.

MEMORIALS

A MEMORIAL service in memory of the life and work of the late Henry C. Wallace, Secretary of Agriculture in the Cabinets of Presidents Harding and Coolidge, will be held at Iowa State College, Ames, on October 18, as one of the features of the twelfth annual conference of the American Country Life Association. The memorial program will include the dedication of a group of trees on the campus and the placing of a stone among the trees bearing a plate stating briefly some of the main features of the service rendered to agriculture by Mr. Wallace.

The British Medical Journal writes that Drs. Fernand Bezançon, André Lemierre, Pierre Abrami, Marcel Brulé, Edouard Joltrain and Louis Pasteur Vallery-Radot have addressed a letter to Sir Almroth Wright inviting his cooperation in a memorial to Professor Fernand Widal, who died on January 14. The letter announced the setting up of a committee for the purpose of placing medallion portraits of Professor Widal in the Paris Faculty of Medicine and the Hôpital Cochin, and of publishing a collected edition of his works, a number of his colleagues in other countries having stated their desire to associate themselves with this project.

UPON request of Commander Richard E. Byrd, sent by radio through the New York *Times,* the National Geographic Society has forwarded the following message to Peter Scott, son of the English explorer, Captain R. F. Scott: "We hoisted the American flag here upon the return of the sun to Antarctica and in honor of your father and his comrades we unfurled the British flag alongside the American. All members of this expedition join me in best of good wishes to you and your family."

THE Italian government has caused a gold medal to be struck in memory of Finn Malmgren, and has also granted his mother a yearly pension of 2,000 Swedish crowns. Documents collected by the investigation committee on the *Italia's* castastrophe, which concerned the explorer, have been sent to his mother.

SCIENTIFIC EVENTS

THE KING PRIZES OF THE PEKING SOCIETY OF NATURAL HISTORY

THE King junior prize, consisting of a bronze medal and the sum of $20 local currency, is founded by Mr. Sohtsu G. King in memory of his brother, Mr. Kung-pao King, a charter member and former councilor of the Peking Society of Natural History. This prize will be awarded for the best collection of Chinese natural history objects with description notes made by any one under twenty years of age. The award shall be made annually by a committee of the society under the following conditions:

1. The prize shall be awarded for the best collection of plants or animals made by any one under twenty years of age.

2. The prize committee of the society shall adjudicate on the merit of the collections and notes.

3. It shall be within the powers of the committee: i. To define from year to year the character of the collection eligible for the prize; ii. To substitute or accept a description of the behavior or mode of life of particular plants or animals in place of a collection; iii. To make such alterations to these conditions as they may deem necessary in order to further the object of the founder, namely, the promotion of the observation of natural phenomena among young people in China.

4. The committee shall advertise these regulations and any amendments which they may make at least six months prior to the award of the prize. They shall also indicate the last date for the reception of collections or papers submitted for the prize.

The King senior medal, consisting of a gold medal, is founded by Mr. Sohtsu G. King in memory of his parents, Mr. and Mrs. Sung-yuan Daw King, with the object of encouraging original investigations in the field of natural history, in which subject his parents took the greatest interest. The medal is to be awarded annually, under the following conditions, for the most meritorious work on the flora or fauna of China:

1. The work shall be selected by a prize committee appointed by the executive council of the Peking Society of Natural History, who shall adjudicate its merits upon the basis of originality and its significances in the furtherance of knowledge concerning the flora or fauna of China.

2. Preference will be given to papers appearing in the society's publications, but the prize committee is at