his conditioned reflex experiment, appears at present to be a promising lead for the laboratory man, perhaps more promising than most of the Freudian hypotheses. We can not expect a dog's or a rat's neurosis to be identical with that of a human being, and we can not hope to carry over the results of the animal laboratory directly into the psychiatric clinic. But something has been gained when we know definite procedures for creating a condition of nervous instability in an animal, especially if we can also discover how to bring him out of that condition.

Child Development

The question, how an abnormal condition arises, is part of the broader problem of tracing the development of the individual and discovering the factors that promote, impede or modify development. This is a problem now being fruitfully attacked by many psychologists by the method of following the child through from birth to maturity. Tests and laboratory methods are used to give an exact knowledge of the course of development and to reveal differences between children in relation to their parentage and environment. But a developmental experiment in the full sense is not easily carried out with human subjects. The psychologist must not introduce experimental factors which might result in mental deficiency or abnormality. He could introduce conditions such as would probably improve the child's development, but he seldom has sufficient control over the child and family to insure a clean-cut result. Attempts are being made, however, and no doubt we can expect increasing success as the work continues.

Survey Experiments and Tests of Hypotheses

The complaint is often heard, as we have already found, that laboratory conditions are too much unlike those of everyday life to throw any light on life and behavior. The complaint is only partially justified. We must distinguish two types of experiment. There is the exploratory type which surveys a field of phenomena in the hope of turning up something that may be of significance. The keen observer, in well-known historic instances, has obtained leads from such surveys that have carried him along to important discoveries. It is decidedly worth while for the psychologist to discover how the individual acts in a variety of conditions, including certainly the conditions of everyday life.

The other type of experiment is pointed up to check some definite hypothesis; and here there is no need to keep the conditions lifelike if only they are such as will provide a clean test of the hypothesis. The hypothesis itself should have some bearing on everyday life, but the question of its truth or falsity is sometimes best put to the test by introducing conditions that are artificial or at least unusual. This is true of some of the best experiments in the older sciences. What is the use, some one might ask, of experimenting to see how a bullet and a feather fall in a vacuum, since in nature they never do fall in a vacuum? The answer is that the experiment provides a definite check on a proposed law of falling bodies. In applying the results to the fall of bodies in the air a correction must of course be made for the resistance of the air, and in the same way a correction will often be necessary when the findings of the psychological laboratory are applied in the clinic, the schoolroom or the athletic field. Just as the engineer must make experiments of his own to determine how the general laws of physics will work out in a complex system like an airplane moving at high speed, so the applied psychologist needs to take over from the experimentalist not his results only but his attitude and general method.

One who has lived through a large share of the history of experimental psychology is sometimes asked whether the present generation of experimenters, so greatly exceeding in number the small band of the old pioneers, measures up to their level in quality of work, and whether any substantial body of scientific knowledge has been built by the assiduous labor of half a century and more. My own answer to both these questions is in the affirmative. My impression of the younger men is that they stand comparison very well with the older group. And any one who takes the trouble to compare their background with that provided by the older psychology will soon realize that there has been a great advance. The results of experimental psychology are not as yet well systematized, and there are large gaps in our knowledge, but the present state of the science is a challenge to the younger men rather than any ground for discouragement.

OBITUARY

VICTOR JOLLOS

1887–1941

Dr. Victor Jollos, a leading student of heredity and mutation, died suddenly at Madison, Wisconsin, July 5, 1941, following a short period of ill health. He was born in Odessa, Russia, on August 12, 1887, the son of Gregor Jollos and Rosa Jurowsky Jollos.

Dr. Jollos spent his entire youth in Germany, where his parents had established residence before his birth.

He received his high-school education in Heidelberg and Berlin, and studied at the Universities of Munich and Berlin under R. Hertwig and M. Hartmann, both of whom influenced him considerably. In 1910 he received his Ph.D. degree in zoology from the University of Munich, and in 1918 he completed the Medizinisches Staatsexamen, and received the German state license for the practice of medicine, following conclusion of his medical studies at the University of Berlin.

Serving as research assistant at the Robert Koch Institute, Berlin, during 1912–1914, Dr. Jollos became acting head of the institute's protozoology department in the latter year. After the war, during which he did medical work, he was appointed research assistant in the Kaiser Wilhelm Institut f. Biologie, Berlin-Dahlem, continuing in that position until 1925. From 1921–1925, he also served as privatdozent for zoology at the University of Berlin.

Upon invitation of the Egyptian Government, Dr. Jollos became professor of zoology and head of the zoology department, which he organized and administered for four years, at the newly created Egyptian University, Cairo, in 1925. While in Egypt, he also was a member of the board of examiners for the medical and veterinary medicine schools in Cairo, served as special adviser to the Egyptian Ministry of Agriculture on sheep and poultry breeding experiments, and was president of the Royal Zoological Society of Egypt.

Returning to Germany in 1929, he became associate professor of zoology in charge of protozoology at the University of Berlin, and was appointed to head a special research laboratory at the Kaiser Wilhelm Institut f. Biologie. Dr. Jollos and his family left Germany after the rise of the Hitler régime, and after a brief interval at the University of Edinburgh, came to the United States in 1934, acquiring American citizenship in 1939.

Under auspices of the Committee in Aid of Displaced German Scholars and the Rockefeller Foundation, Dr. Jollos received a temporary appointment as visiting professor of zoology and genetics at the University of Wisconsin. After expiration of this appointment he was named Carl Schurz memorial lecturer at the University of Wisconsin for a short period, and continued research in genetics under a grant-in-aid from the National Research Council until 1939. In the spring of 1937 he undertook a lecture tour of several eastern universities, speaking at the departments of zoology of Yale University, the Johns Hopkins University, the University of Rochester, N. Y., and Amherst College. He had made his home in Madison since his arrival in this country.

Dr. Jollos's interests in biology were unusually broad and profound. During his almost 30 years of research experience, he worked on varied problems of genetics, parasitic and general protozoology and general biology. His early investigations were primarily in protozoology and later, when certain problems of genetics and evolution commanded his attention, much of his work was done with the Protozoa. His most important research work in genetics dealt with problems of the rôle of environmental conditions in the production of hereditary alterations. This was foreshadowed as early as 1913, when he published a preliminary report of experiments dealing with the acquisition of resistance to poison by pure lines of infusoria.

Perhaps Dr. Jollos's best-known work in genetics is that on *Dauermodifikationen*. In a series of papers, beginning in 1921, he showed that certain external conditions change particular characters of the organism, and that the change reappears in succeeding generations in a gradually lessening degree until it finally disappears. Experiments on Protozoa and Metazoa demonstrated that the change is cytoplasmic, and suggested that it is gradually overcome by the genes. This pioneer work, which opened up an important new field of research, is now recognized as classical.

During recent years he gave much attention to the origin and nature of mutations, seeking especially to test further the view he had earlier announced, but which other investigators had failed to confirm, that certain environmental factors, such as heat, which can produce mutations, may also have a directive influence on the character of the change. Being himself unable to reproduce his initial results, Dr. Jollos sought to improve the experimental technique he had used so as to bring under control some environmental factors which he suspected were responsible for the discrepancies. Unhappily the opportunity he so earnestly desired to pursue this work further never came to him.

Close associates of Victor Jollos recognized his fine scholarly character and the extraordinary extent of his scientific and general knowledge. He was inclined to work alone in his methodical, persevering way, seeking to apply every possible experimental test to the ideas which flowed freely from his fertile and severely logical mind. He provided a fine stimulus to advanced students, and willingly gave his time in their behalf.

Dr. Jollos published more than 50 books, pamphlets, articles and papers during his lifetime, most of them dealing with specific phases of modification, heredity, protozoology and general biology. His immense knowledge of biological literature found expression in a number of monographic reviews which were published in different German handbooks. He wrote seven papers and one book since coming to this country, his

last published work being a book on the fundamentals of heredity with special emphasis on mutations and modifications. It appeared in 1939.

Dr. Jollos also left two unpublished books, one of which, a history of protozoology, he was working on at the time of his death, while the other, a general history of science and biology, tentatively entitled "Problems of Life," was written in 1936.

In 1920 Dr. Jollos married Ilse Raven, an accomplished pianist and teacher, who, with their two daughters, Miss Eva Jollos, a Madison newspaper reporter, and Miss Inge Jollos, a University of Wisconsin student, is now living in Madison, Wisconsin. His mother; a sister, Dr. Nadia Jollos, and a brother, Dr. Waldemar Jollos, in Zurich, Switzerland, also survive him.

R. A. BRINK

UNIVERSITY OF WISCONSIN

DEATHS AND MEMORIALS

DR. WILLIAM FRANCIS GANONG, from 1894 until his retirement with the title emeritus in 1932 professor of botany and director of the botanical garden of Smith College, died on September 9, at the age of seventy-seven years.

DR. WALTER GRANGER, curator of fossil mammals of the American Museum of Natural History in New York and a member of the staff for more than fifty years, died on September 6. He was sixty-eight years old.

DR. ERNEST JULIUS BERG, who retired last June with the title emeritus from the professorship of electrical engineering at Union College and as dean of the department of engineering, died on September 9 at the age of seventy years. He was engineer and consulting engineer of the General Electric Company from 1892 to 1909.

HARRY GRINDELL-MATTHEWS, the Welsh inventor, died on September 11 at the age of sixty-one years. In recent years he had been engaged in research on air defense. He had worked on radio, the synchronization of action in sound films, on wireless telephoning and on wireless control of torpedoes, airplanes and motor boats.

A CORRESPONDENT writes: "Miss Clyde Schuman, 420 Riverside Drive, New York City, is writing a biography of Mary Swartz Rose, until her death last February a member of the faculty at Teachers College, Columbia University, and one of the country's foremost authorities on nutrition. After graduating from Denison University in 1901, Dr. Rose attended Mechanics Institute, Rochester, N. Y., then taught in Fond du Lac, Wisconsin, for three years. She then studied at Teachers College and at Yale. In 1909 she joined the staff at Teachers College, becoming full professor in the department of nutrition in 1921. Miss Schuman will be grateful for letters from persons having notes on her lectures or comments on her educational and scientific procedures; from those who knew her as fellow-student; from those serving with her on national and international committees; and from friends who may have pertinent information. Full credit will be given for material used and any material submitted will be promptly copied and returned."

SCIENTIFIC EVENTS

THE BRITISH COUNCIL

THE report of the British Council covering the year ended March 31 has been made public. According to an abstract in *Nature,* the council has recognized two main duties, first, the defensive role in the resistance to and disproval of charges brought by German and Italian propaganda and, second, the positive mission of carrying to other countries a knowledge of the contribution which Great Britain has made and still makes towards the science of life and government.

The chief methods adopted by the council for this purpose are the formation of new or the encouragement of existing British cultural centers abroad, and the council is now responsible for British institutes in Malta, Cypress, Palestine, Egypt, Iraq, Spain and Portugal. Most of the anglophil societies encouraged by the council are now found in Latin America although before the war the council was in touch with no less than two hundred and fifty such societies, many in France, Germany, the Netherlands and Scandinavia. The council also encourages British schools abroad as well as English studies in foreign schools and universities, and throughout these institutions and elsewhere the knowledge of the English language. Competitive scholarships, valued at £250, are awarded to well-qualified, post-graduate students from foreign countries and from the Empire.

Such activities have been inevitably modified by the war. One of the council's main tasks has been to build up in the premises of the anglophil societies of British institutes and also in foreign universities and other institutions general libraries of English books and to this has been added the presentation of scientific and technical works to specialist libraries abroad. A book export scheme has been initiated to encourage the sale abroad of British books of cultural importance as well as a book review scheme intended to secure the review of British books in foreign newspapers and periodicals.

A small fortnightly publication has been issued