

of administering a large joint undertaking. We have no doubt that this can be overcome, with patience and good will, even with the present organization of our chief universities. But, on the other hand, these difficulties are greatly minimized under a junior college organization. Presumably in most institutions the first two years work would be placed directly under the control of a dean or other similar administrative officer with little or no departmental bias. He would be empowered and obligated to organize such general courses—General Biology and others—without interference from departments or technical schools, though he would doubtless wisely seek such advice as he needed.

Under a junior college organization, general biology is but one of the urgent needs. A presentation of the general concepts of physics and chemistry is certainly just as much needed and doubtless equally feasible. Certainly the educated man should know something of the earth on which he lives and the planetary system to which it belongs—interesting subject matter for a general course. It is possibly venturing afield for biologists to suggest that a general course could also be devised that would inform the student concerning the human environment in which he lives. What a fascinating course could be made by a serious attempt to set before the student the rôle of the state, the church, labor, capital, eugenics, and eugenics!

In conclusion the writers, a botanist and a physiologist, respectively, would beg to record their conviction not only that a course in general biology, and other similar courses, can be organized and that they are highly desirable but also that the advance of the junior college will shortly force us to attempt it whether we like it or not.

LEONAS L. BURLINGAME,

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STANFORD UNIVERSITY

FRANCIS C. PHILLIPS

DR. FRANCIS CLIFFORD PHILLIPS died at his residence, 144 Ridge Avenue, Ben Avon, Pa., on Monday, February 16, of influenza-pneu-

monia, passing away in the same peaceful manner which characterized his life.

He was born in Philadelphia, April 2, 1850, the son of William S. and Fredericka Ingersoll Phillips. He received his early education at home from an unusually capable and devoted mother. In 1864 Dr. Phillips studied at the Academy of the Protestant Episcopal Church in Philadelphia and in 1866 entered the University of Pennsylvania, where he obtained his A.B. From 1871–1873 he studied under Regimus Fresenius at Wiesbaden, Germany. During the latter year he was private assistant to Professor Fresenius. He then spent a year at the Polytechnic School at Aachen (Aix-la-Chapelle). Here he was associated with Professor Landolt. Professor Phillips was unable to complete his studies abroad because of the poor health of his father. He returned to America and during the following year became instructor in chemistry at Delaware College. In 1875 he was appointed to the teaching staff of the University of Pittsburgh, then the Western University of Pennsylvania, where he taught for forty years, retiring as head of the Department of Chemistry in 1915. For many years he taught chemistry, geology and mineralogy. Even in the writer's student days (1898–1902) Professor Phillips still taught all branches of chemistry and mineralogy. In 1878–1879 he also lectured to the students in the Pittsburgh College of Pharmacy, where he succeeded the late Professor John W. Langley, a brother of the late Samuel P. Langley, then at the Allegheny Observatory and afterwards secretary of the Smithsonian Institution. In 1879 he received the degree of A.M. from the University of Pennsylvania, and in 1893 the Ph.D.

He was married in 1881 to Sarah Ormsby Phillips daughter of Ormsby Phillips, a former mayor of Allegheny.

In 1915 Dr. Phillips retired from active service in the University of Pittsburgh under the pension system of the Carnegie Foundation. Since that time he had been engaged continuously in research and writing in a laboratory provided by the Mellon Institute. During the recent war he conducted researches

on gases in cooperation with the Gas Warfare Service.

In June, 1919, Dr. Phillips received the honorary degree of Doctor of Science from the University of Pittsburgh.

Dr. Phillips was an authority on natural gas in which field he held international recognition. In 1904 he published the "Methods of Analysis of Ores, Pig Iron and Steel used by the Chemists in the Pittsburgh Region," and in 1913 a text-book of "Chemical German," of which a second edition appeared in 1916. At the time of his death Dr. Phillips had two other books well under way, one on the "Life and Work of Joseph Priestley," the other on "Qualitative Gas Reactions."

Dr. Phillips was a member of the following societies:

Phi Kappa Sigma Fraternity since 1867.

Engineers' Society of Western Pennsylvania since 1880.

American Association for Advancement of Science since 1887.

American Institute of Mining Engineers since 1892.

American Chemical Society since 1894.

American Philosophical Society since 1894.

Phi Lambda Upsilon Fraternity since 1919.

Dr. Phillips was a member of the Chemists' Club of New York City and the University Club of Pittsburgh.

He has been a member of the council of the American Chemical Society since the organization of the Pittsburgh Section in 1903.

Beside his widow, Mrs. Sarah Ormsby Phillips, Dr. Phillips leaves two sons, Clifford S. and Frederick I. Phillips.

ALEXANDER SILVERMAN

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SCIENTIFIC EVENTS

BIRD BANDING WORK BEING TAKEN OVER BY THE BIOLOGICAL SURVEY

THE Bureau of Biological Survey at Washington, D. C., has taken over the work formerly carried on under the auspices of the Linnaean Society of New York by the American Bird Banding Association. In taking

over this work the bureau feels that it should express the debt that students of ornithology in this country owe to Mr. Howard H. Cleaves for the devotion and success with which he has conducted its investigation up to a point where it has outgrown the possibilities of his personal supervision.

Under plans now being formulated this work will give a great amount of invaluable information concerning the migration and distribution of North American birds which will be of direct service in the administration of the Migratory Bird Treaty Act, as well as of much general scientific interest.

It is desired to develop this work along two principal lines: first, the trapping and banding of waterfowl, especially ducks and geese, on both their breeding and winter grounds; and secondly, the systematic trapping of land birds as initiated by Mr. S. Prentiss Baldwin, the early results of which have been published by him in the *Proceedings* of the Linnaean Society of New York, No. 13, 1919, pp. 23-55. It is planned to enlist the interest and services of volunteer workers, who will undertake to operate and maintain trapping stations throughout the year, banding new birds and recording the data from those previously banded. The results from a series of stations thus operated will undoubtedly give new insight into migration routes; speed of travel during migration; longevity of species; affinity for the same nesting-site year after year; and, in addition, furnish a wealth of information relative to the behavior of the individual, heretofore impossible because of the difficulty of keeping one particular bird under observation.

The details of operation are now receiving close attention, and as soon as possible the issue of bands will be announced, with full information regarding the methods to be followed and the results expected. In the meantime, the Biological Survey will be glad to receive communications from those sufficiently interested and satisfactorily located to engage in this work during their leisure time, for it is obvious that a considerable part must be done by volunteer operators. It is hoped that