Obituary

Alfred Church Lane
1863-1948

Alfred Church Lane, geologist, died in New York City on April 15, 1948. Dr. Lane was a quantitatively-minded natural scientist who thought in terms of lasting human values. In the best sense of the word he was a humanist-scientist. He was a New Englander of New Englanders, a devout church member, a rigorous natural scientist, an outstanding teacher. In his lively and complex nature he was a modern incarnation of the best in the Renaissance man. He was sensitive to new and emerging values but ever conscious of solid old truths. He was versatile in his skills and broad in his interests. As he spoke, he loved to let his mind range beyond the horizons and then bring his hearers back with a quick rein by some common-sense and penetrating observation. He was trained in analysis, but his mind was truly synthetic.

Dr. Lane was born on January 29, 1863, in Boston. He was graduated from Harvard in 1883 and in 1888 received the Ph.D. degree from his Alma Mater. From 1885 to 1887 he was a student at the University of Heidelberg. In 1913 Tufts awarded him the honorary D.Sc. degree.

From 1883 to 1885 he was an instructor in mathematics at Harvard. This was a significant phase of his life, because in many of his later contributions to his own science of geology he thought and wrote with the tools of mathematics. He assisted in transforming parts of his chosen field from a purely qualitative and descriptive earth science to a modern and quantitative discipline closely related to physics and chemistry. From 1889 to 1892 Dr. Lane was petrographer of the Michigan State Geologic Survey and instructor in the Michigan College of Mines. From 1892 to 1909 he was, successively, assistant and state geologist of Michigan. In the latter year he became Pearson professor of geology and mineralogy at Tufts College and in 1936 retired as professor emeritus.

His honors and professional activities were many. In 1929 he became the first consultant in science ever appointed at the Library of Congress. Beginning in 1924 he was a member of the Board of Visitors of the Harvard Observatory. In 1940 Tufts College awarded him its Ballou Medal for distinguished service to education and the Nation. He served as vice-president of the Division of Geology of the AAAS (1907) and as president of the Geological Society of America (1931), and held several offices in the American Academy of Arts and Sciences. For many years he was chairman of the important National Research Council Committee on the Measurement of Geologic Time. In connection with the work of this Committee he became active in the study of radioactive minerals.

Indicative of the all-round interests of this modern Renaissance man was his affiliation with many societies in fields other than geology—for example, those having to do with history, natural history, engineering, forestry, and astronomy. He was an honorary member of the Geological Society of Belgium. Three times he was an official delegate from America to international geological conferences. In World War I he was with the overseas YMCA and head of the Department of Mining of one of the emergency war colleges of France. For his long and ardent service to all phases of scouting he was awarded the Silver Beaver by the Boy Scouts of America.

Dr. Lane was the author, in German and English, of 1,087 publications.

As a college professor and department head at Tufts Dr. Lane had a remarkable influence upon more than a full generation of students. He had the rewarding privilege of teaching not a few of his old students' children when they in turn came to Tufts. He was always jealous of the high scientific character of his subject. Almost always he demanded that his students not only study geology itself but supplement it with a thorough knowledge of mathematics, physics, and chemistry. For this reason his many students who went on from Tufts to graduate schools were always equipped to deal with the quantitative geology of the future rather than merely with the descriptive geology of the past. The list of his former students who hold places of distinction in American scientific and university life is today a living tribute to his influence.

In his teaching, as in his life, he was perpetually youthful. He was always interested in the latest geological discoveries and in the current problems of the Nation and of the world. His scholarship and wide study were for him a solid starting platform from which to launch new but guided missiles into the unknown.

At all times as a citizen and a scientist he was ready to participate in the solution of problems facing so-

ciety. By his life and attitudes he gave us all a functioning model of the service that a citizen of a democracy can give to local, state, national, and, indeed, international governmental agencies.

Tufts College, the science of geology, our Nation itself, and the cause of real international understanding have lost a dynamic figure in the death of Alfred Church Lane.

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Book Reviews

Insects of Hawaii. (Vols. I–V.) Elwood C. Zimmerman. Honolulu: Univ. Hawaii Press, 1948. Vol. I: Pp. xx + 206, $3.50; Vol. II: x + 475, $5.50; Vol. III: 275, $4.50; Vol. IV: 300, $4.50; Vol. V: 500, $6.00.

If there is anyone left who does not believe in evolution, I would recommend to him the study of the fauna of the Hawaiian Islands.

On 6 major and a number of minor islands that are nothing but the tops of a chain of volcanoes rising from the undisturbed ocean bottom, a most remarkable fauna has evolved. Perkins, the grand old man of Hawaiian natural history, published a set of volumes on the insect fauna of these islands between 1899 and 1913, but so much additional information has been gathered by subsequent investigators that the publication of a new insect fauna became imperative. Dr. Zimmerman has undertaken this Herculean task. The new *Insects of Hawaii* will comprise some 12–15 volumes, of which the first 5 have just been published. They cover the lower orders including Orthoptera and Hemiptera and contain the descriptions of 1,100 species, with notes on their origin, distribution, hosts, predators, and controls.

The introductory volume discusses the history of the islands which geologists believe to have originated not earlier than in the late Tertiary. This conclusion seems contradicted by the amazingly diversified fauna, with its numerous endemic genera and subfamilies indicating extreme age. Unsuspectedly rapid evolution, as well as colonization by endemics from now-submerged archipelagoes, may be the solution of this puzzling contradiction.

Zimmerman shows that transoceanic dispersal is much greater in some groups of insects than was believed possible by earlier authors. There is no need to postulate former land bridges for which there is no geological evidence. The total insect fauna of Hawaii, consisting of more than 3,700 endemic species, seems to have descended from 233–254 original colonizations. About 95% of the endemics have Pacific affinities, and only 5%, American.

The extreme isolation of the islands permitted the evolution of a unique microcosmos. Aberrant species occur in every family, often exceedingly bizarre, but close study invariably reveals that they are members of some orthodox group. The most remarkable is perhaps a damsel fly, the larvae of which have given up the usual aquatic habits of this family and live in the litter of the forest floor. Such cases demonstrate graphically how new higher categories may originate.

It would lead too far to report on even a fraction of the many interesting biological phenomena discussed by Dr. Zimmerman. They include topographic isolation, the polyphyletic origin of flightlessness, of predacity and parasitism, rates of evolution, extinction, and many ecological phenomena. The Bernice P. Bishop Museum, the Hawaiian Sugar Planters' Association, and the University of Hawaii are to be congratulated on having sponsored this important publication.

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Proteins and life. M. V. Tracey. London: Pilot Press, 1948. Pp. x + 154. (Illustrated.) 10/6.

This little book, by a member of the Department of Biochemistry at the Rothamsted Experimental Station, provides an excellent brief account of the fundamentals of protein chemistry. It is well written and is characterized by clearness of statement and simplicity of presentation. The details of methods are for the most part omitted, although references to the original literature are provided for those who wish to go more deeply into a particular subject. References to review articles and other collateral material are also given. The book thus may well serve as a point of departure for the student of biochemistry at the undergraduate or graduate level. It can be read with profit even by those who have specialized in the study of proteins.

The first few chapters deal with the nature of proteins, their composition, and the more important present-day views on protein constitution. Chapters on proteins in nutrition, in industry, as components of living tissues, and as factors in disease follow. The factual information is well chosen and, in general, accurate; few errors having been detected. A valuable feature, especially for the beginning student, is the summarization of information into brief tabular statements after each section.

The reviewer questions the use of the technical term "residue" on page 19 and elsewhere. In American practice, at least, the residue of an amino acid is the part remaining when the hydroxyl group of the carboxyl and one hydrogen of the amino group are removed. The author appears to have confused residue with radical. On page 25 the essential role of the peptidases in completing the enzymatic hydrolysis of a protein is overlooked, although the matter is made clear subsequently. Despite such minor and fortunately rare imperfections as this, however, the book can be highly recommended.

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