IN MEMORIAM: FREDERICK AUGUSTUS LUCAS.

BORN MARCH 25, 1852—DIED FEBRUARY 9, 1929.

BY CHARLES HASKINS TOWNSEND.

Plate V.

THE common expression "He was well educated for the work he was to do" is not always a satisfactory one. Outside of certain professions, men who do important work usually get their education while they are doing it. Early schooling merely starts the process. Education with the man who knows what he wants to do goes on through life but a good start is of course important.

In the case of this man whose career was that of a naturalist and museum builder, the period that he spent in boyhood on board his father's sailing vessel "where thews are hardened and sea lessons learned," was an important one in his training. A boy on shipboard learns many things useful in after life. The "bo'sn," carpenter, sailmaker, and the first class men of the crew—all contribute toward making him "handy" and self-reliant, and mere ship discipline is wholesome. While the boy Lucas learned ship ways of doing things and saw something of foreign countries, he had the instincts of the naturalist and did not intend to become a sailor. He devised ways of catching sea birds which he skinned in the carpenter's shop. Thus, like a good many naturalists, he began with the birds.

Three years—two long voyages, 1861–62 and 1869–70, and two short ones—were spent at sea. His first long voyage was from New York to San Francisco, Japan, China and around the Cape of Good Hope, barely escaping the Confederate Cruiser "Florida" which was intercepting and destroying our clipper ships. The second voyage of eighteen months in 1869–70 was of greater importance. This took him from Boston to Valparaiso, Callao, the Chincha Islands, where the ship lay three months—greatly to his profit ornithologically, then to London and back to Boston. The close of this voyage found him eighteen years old and confronted with the problem of what to do for a living. He had an

ambition to become a taxidermist and collector of birds, due to the fact that he had an uncle who was an amateur taxidermist.

The small museum of Pierce Academy at Middleboro, Massachusetts, was the prime factor in determining that he should become a museum worker. This was the first museum he ever saw. That he went to Ward's Natural Science Establishment at Rochester in 1871—the most important factor in his life, was due to a friend who had met Professor Ward. This was his abiding place for the next eleven years.

Ward's was then a little hamlet of about fifteen buildings located near the University of Rochester. It was a little community by itself, a polyglot community, including American, French, German, Swiss and Italian employees, each of whom was an expert in some branch of preparatory work such as taxidermy, osteology, or plaster work. Eleven years at Ward's furnished excellent museum training. Due to a liking for mechanical work, in mastering the mounting of crustacea, small birds and skeletons, such practical matters as the packing of all sorts of objects from elephants to plaster casts, came to him as a part of the day's work. The mounting of skeletons especially was of importance to his future. Sorting over the contents of a maceration barrel comprising two or three skeletons was the best possible training in comparative anatomy and an excellent foundation for work in palaeontology which, through force of circumstances, fell to him later.

Museum methods have changed much since the early days of Ward's, and the establishment did much to further this development. In manuscript notes referring to this period of his life Lucas laments the disappearance of the "all round" naturalist. He also remarks that he never during those days read through any scientific book, never attended a course of scientific lectures, never did an hour's laboratory work, nor made a microscopic slide. While at Ward's he made the acquaintance of Dr. J. A. Allen, then a young man, through whose aid he published his first scientific paper on "The Species of Bornean Orangs."

Ward's was a gathering place for amateur naturalists trying to find themselves. Museums were few and they were glad to get a chance anywhere. They worked at taxidermy, osteology, making plaster casts of important fossils, identifying minerals and shells

and even helping with the rough work that had to be done. Most of them later won recognition as naturalists, explorers, college professors, museum directors and authors. Among the "alumni" were W. T. Hornaday, Carl Akeley, G. K. Cherrie, H. L. Ward, E. E. Howell, F. C. Baker, Prof. W. B. Barrows, Prof. W. M. Wheeler, Prof. G. K. Gilbert, Prof. H. E. Crampton, Prof. G. H. Chadwick, and many others, but none were "professors" at that time. The writer of this sketch was among those present in 1880.

Lucas was the manager of the establishment and participated in all the activities of the place. Kindly, cheerful, possessed of sound judgment, and interested in what all were doing, the spirit of the establishment was *earnestness*. All were indebted to him for training in museum methods that proved helpful in after life and, in fact, largely determined their careers. It has seemed desirable to dwell somewhat on his connection with this emporium of natural history material, which recently passed to the ownership of the University of Rochester. It was here that he trained himself as well as others, and from which he was called to be osteologist of the National Museum.

At this time, 1882, the Museum was beginning to occupy the new building next to the Smithsonian Institution, where it was then possible to try experiments in installation and exhibition that would not have been feasible in an older building. It was his good fortune to serve under G. Brown Goode whose labors had an important influence on the museums of America. There was a distinct "break away" from antiquated methods—Goode found in Lucas a most efficient helper. His desire, like Goode's, was to make a museum educational and interesting. Installation and labelling were of special interest to both of them. Here, and at the museums with which he was later connected, Lucas must have written thousands of his descriptive and unusually instructive labels. He has said that it was a liberal education to associate with the officers and workers he found at the National Museum, the Smithsonian, the Fish Commission and kindred institutions in Washington.

He took up the osteology of birds as material was readily obtainable. His skill as a preparator and the ability to make drawings stood him in good stead. His bibliography lists numerous

papers on the osteology and anatomy of birds. His first promotion came in 1887 when he was appointed Assistant Curator of Comparative Anatomy, becoming Curator in 1893.

In 1887, about fifty years after the Great Auk became extinct, Professor Baird sent Lucas on a cruise with the U. S. Fish Commission schooner *Grampus*, during which Funk Island and other islands were explored ornithologically. The late William Palmer was detailed for the trip to collect birds. The collection of bones of the Great Auk obtained at Funk Island equaled in extent all other existing collections combined. Lucas wrote a 36-page account of the gathering of this material and his subsequent study of it, together with five pages of bibliography relative to the Great Auk. This was followed by a 20-page supplementary report dealing further with the history of the Great Auk and other natural history features of the regions explored.

Among his numerous anatomical papers on birds are "The Weapons and Wings of Birds," "The Tongues of Birds," "Osteology of Fossil Birds of the Genus Hesperornis," etc.

He participated in the preparation and installation of many of the exhibits of the National Museum at the great industrial expositions held in some of the larger cities of the country. These governmental exhibits were models of their kind, and inspiring to museum men everywhere.

His last work for the National Museum was a mission to Newfoundland to secure the cast and skeleton of a fully-grown Blue or Sulphur-bottom whale, which was successfully carried out. This trip involved a stay of nearly two months at the whaling station at Balaena on the south coast of Newfoundland, and afforded an opportunity to obtain information in regard to three species of whales.

In 1896, Dr. Lucas was detailed by President Cleveland as a member of the international commission to make a scientific investigation of the condition of the fur seal herds of the North Pacific Ocean and Bering Sea. The other naturalist members were David Starr Jordan (chairman), Leonhard Stejneger and the writer. The British naturalist members were D'Arcy W. Thompson, and James M. Macoun.[1] The U. S. Fisheries steamer *Al-*

[1] Deceased 1920. Member A. O. U. Co-author Birds of Canada.

batross was placed at the service of the commission. By this time, the prolonged "Bering Sea Controversy" was reaching an acute stage. Pelagic sealing, with its heavy destruction of female seals, was still going on, although with greatly reduced catches, while the Pribilof seal herd had dwindled to about 400,000 seals of all classes. The decrease continued rapidly until 1911 when pelagic sealing was discontinued by international treaty. Dr. Lucas took part in the work both ashore and afloat, his inquiries being directed chiefly to anatomical points that had been matters of dispute. With the writer he made cruises among the sealing fleet and made many dissections of seal carcasses on the decks of the vessels. It was a personal gratification to have the results of his studies confirm the conclusions I had arrived at and published a year earlier in making similar anatomical observations. The four-volume report of the commission contains many references to his work. Seven of the articles in volume three were contributed by him. He found the great rookeries of sea birds at the Pribilofs a delight and visited most of them.

Lucas' third period of museum work, after twenty-two years in the National Museum, began in 1904 when he was called to Brooklyn as Curator in Chief of the Brooklyn Museum. Here he put into practice some of the results of past training and experience, although the Museum was not new and had a fairly well determined policy. The satisfactory results of his labors here are apparent to those who were previously acquainted with the natural history halls of this museum so largely devoted to art.

Dr. Lucas referred to his museum life as divided into four periods —beginning at "Ward's" and ending at the American Museum of Natural History which he entered as director in 1911. This great museum had still more definitely established policies than the one he found in Brooklyn seven years before. There were more and larger departments, each in charge of an experienced curator, his early friend J. A. Allen being curator of mammals. The exhibits were extensive and increasing rapidly as the natural result of expeditions continually in the field, and the museum was prosperous. Into such a situation this experienced museum man proceeded to fit himself and do the best he could for the institution.

His many abilities, his unfailing courtesies, and his considera-

tion for the feelings of others were soon revealed to his associates. His experience proved helpful and was warmly appreciated. To the always overloaded department of preparation he naturally devoted especial attention, although his physical strength was on the wane. Carlyle, in commenting on the futility of searching for *happiness*, said—in substance, turn to thy work and instead, find *blessedness*. While a man in his sixtieth year does not usually look for harder work, his vivid interest suffered little diminution.

Shortly before his death he was made Director Emeritus of the American Museum. At his funeral obsequies in Flushing, Long Island, there was a notable representation from the museums of the City.

Dr. Lucas was born in Plymouth, Massachusetts, on March 25, 1852, and died at his home in Flushing on February 9, 1929.

His parents were Augustus Henry and Eliza Oliver (Sylvester) Lucas. His father was a master mariner; his grandfather, Joseph Lucas, a member of the State Legislature and an inventor of nail cutting machinery, while his great grandmother, Ruby Fuller, was a descendent of Dr. Samuel Fuller of the Mayflower. Dr. Lucas was married on February 13, 1884, to Annie J., daughter of Matthew Edgar and had two daughters, Janette May and Annie Edgar Lucas.

Dr. Lucas was elected an Associate member of the American Ornithologists Union at the fifth meeting held in Boston in October, 1888. In 1892 he was made an Active Member and in November, 1901, through an amendment to the by-laws whereby the active members all became Fellows of the Union, he was given that distinction which he retained until 1921 when, at his own request, he was placed on the list of Retired Fellows. He was elected a member of the Council of the Union in 1905 and retained that position until his retirement.

Of the 350 natural history articles and notes published by Dr. Lucas, 104 relate to birds and more than a third of these were contributed to 'The Auk.' His bibliography does not by any means include all of his writings. The work he did for 'Johnston's Encyclopedia' in the late nineties was of decided importance and value. Being a persistent student of general natural history and a wise literary critic, his concise accounts of species could not

easily be improved upon. Such subjects as Auk, Armadillo, Crocodile, Elephant, Fisheries, Lyre-bird, Lizard, Megapodius, and a host of others both signed and unsigned, are highly satisfactory for the space afforded in an eight volume encyclopedia. This was his evening work at home for many months. His large card-catalogued collection of special pamphlets on the vertebrates—largely up to date, was his principal reference library.

While his bibliography aside from birds, deals largely with the other classes of vertebrates, there are contributions to other subjects such as palæontology, museum management, biography, and book reviews. In addition to his technical papers, Dr. Lucas provided two instructive and readable books for the publisher: "Animals Before Man in North America" and "Animals of the Past," each of which reached a seventh edition. A large proportion of his natural history papers may be described as "interestingly written."

His wide knowledge of the vertebrates and his unusually retentive memory made him a referee among his naturalist associates—much as we used to regard Dr. Theodore Gill around the Smithsonian, and he was fully as accommodating.

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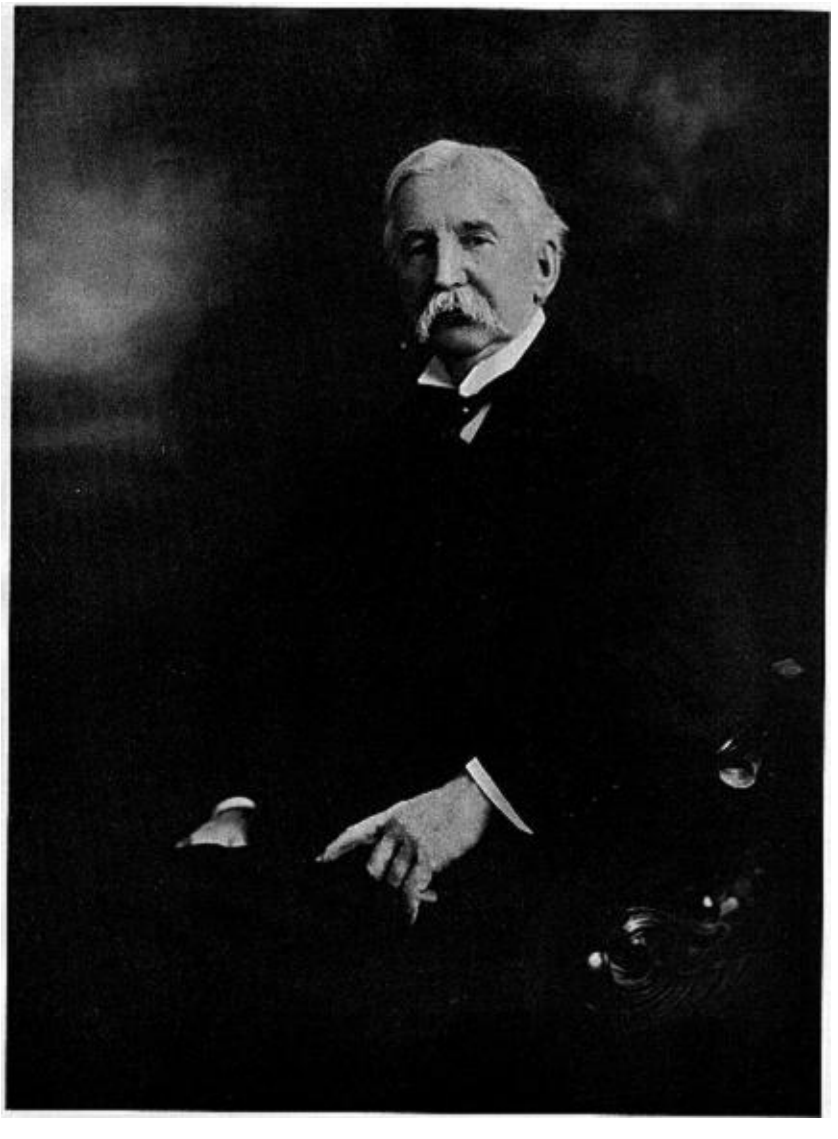

Sincerely
F. A. Lucas

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