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IN MEMORIAM: LEVERETT MILLS LOOMIS.

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(Plates I-II).

YOUTH is the season when the human mind, contented no longer with being and acting, begins to think, wonders whence and whither, how and why. To some the outer world with its wondrous charm and mystery seems most worth while, and these young dreamers become men of affairs, artists or scientists, with in the last the pursuit of truth as the highest goal. In others introspection gains the mastery, and we find poets, pedagogues and reformers, the last with an intense desire for righteousness, as they see it, flooding their souls. In most the "fine frenzy" of these awakening years subsides into the dullness of middle age with only an occasional glance backward to the enthusiasm for birds or poetry that made the earlier years a vision. Even in the favored few in whom the impulse toward some pursuit is so strong as to brook no negation the mind and life develop in but one direction, and they become deaf to the calls of the others. Like the gardener they destroy the lateral buds that the central may be more perfect. With a few, however, opposing factors in the mind are so strong that no one of them can win complete mastery, and, with the intellect sufficient, such men become leaders in more fields than one. Such was the man, whose useful life I shall, in this very im-

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PLATE I.



Leverett Mills Loomis.

perfect sketch try to depict:—Leverett Mills Loomis, scientist, teacher, administrator, genial companion and reformer;—a lover of beauty, a careful and conscientious scientist, a builder and a staunch friend, but with the reformer's unswerving devotion to what he believed right he touched life at many angles.

He was born at Roseville, Ohio, October 13, 1857, the son of the Reverend Samuel and Maria Rebecca (Hamilton) Loomis. On his father's side he came of New England ancestry, his forefathers being among the earliest settlers in Mavflower days. Professor Elias Loomis, the eminent astronomer and mathematician of Yale, was a close connection, an uncle, I believe. It. might be expected that it was from this ancestry he derived the unswerving devotion to what he held right and an inability to compromise that marked his later life, as well as his scientific bent; but his mother, though of cavalier descent, held such pronounced views on the observance of Sunday that, in deference to her wishes, he never collected on that day, and was unwilling that those who worked for the California Academy during his directorship should put it to common usage. It was his mother, too, who fostered his early interest in birds.

His father also was born in Ohio and was a graduate of the Western Reserve College and Union Theological Seminary. He became a minister of the Presbyterian Church, and filled the pulpits of several Ohio and New Jersev churches. In the fall of 1868, in response to an appeal from the Freedman's Board of the New School Presbyterian Church, he volunteered to go to South Carolina to take up school work among the negroes. At Chester, South Carolina, he founded a school for them, which was most successful. This school, now known as Brainerd Institute, has become one of the leading colored schools of that state. And he won the friendship and esteem of the white people of the community also, as is shown by what was published at his death. What this shows of the lovableness of his character, his reasonableness, devotion to duty and patience all those who remember, or have read, how repulsive such work then was to the white people of the South, will understand. The last years of his life were spent with his son in San Francisco, a cripple from rheumatism, and unable to read for long. With unswerving devotion Leverett cared for him, giving to him most of the hours that were left after his work in the Academy.

In such an atmosphere then of education and refinement Leverett grew to manhood. Though he attended a military school in New Jersey for some years, most of the instruction he received was private. But for surely a time the white adults and boys of his own age at Chester must have been distinctly unfriendly; and no doubt he learned then to keep largely to himself, fight manfully his own battles, and to find in nature his chief joys.

How early his attention became concentrated on ornithology we do not know, but it must have been by 1876, for in a paper he published in 1891 he speaks of his fourteen years' field experience with the birds of South Carolina. His first published paper-"A Partial List of the Birds of Chester County, South Carolina"-appeared in the 'Bulletin of the Nuttall Ornithological Club' in 1879, and showed much knowledge not only of the birds of his home region but of the entire state, and a wide acquaintance with ornithological literature. From then until 1891 a constant succession of papers from his pen appeared in the 'Bulletin' and 'The Auk,' and in these papers he added thirteen species or subspecies to those known from South Carolina. But this aspect of the study of ornithology, though of interest to him all his life, did not long content his active mind, ideas rather than things were to be the pursuit of his later years. Migration was his first study, and to it he devoted much time in the field, collecting thousands of birds, and read all he could find on the subject. The enlargement of the gonads at the beginning of spring, which has been thought the underlying factor by some recent students, he investigated and dismissed as altogether unsatisfactory. And when we remember that this growth in the male genitalia is most pronounced, 'relatively to the size of the bird,' in some purely resident species, such as Chickadees, those who believe it the true cause of the northward movement have something to explain. His conclusions and the reasons for them he read at the ninth congress of the American Ornithologists' Union in New York in 1891, and they were published in 'The Auk' in his paper entitled "A Further Review of the Avian Fauna of Chester County, South Carolina." His belief was:

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(1) That migration begins with the southward movement, commencing south and north before August and progressing gradually, the two movements each extending over a period of six months.

(2) That the young do not precede their parents in the southward movement.

(3) That all southward movement of birds is enforced departure from the region of their birth (enforced evacuation of territory capable in winter of supporting but a portion of its summer life), and that all northward movement is return from exile at the earliest opportunity, necessitated by pressure from the south (by the need of dispersal and occupancy of all available food areas), and, perhaps, in some species at least, by requirements as to climate during the breeding season.

(4) That the earlier southward movements are anticipatory, and necessarily so, and the later directly resultant of the conditions of winter.

(5) That irregular occurrence of birds in winter is ascribed (a) to variableness in the location of isolated communities, independent of failure of food or severity or mildness of season; (b) to sudden cold contracting the food area and forcing birds southward (cold being the remote cause and failure of food the immediate cause), and to unusual protracted warmth enlarging the food area and encouraging birds northward; (c) to failure of food independent of severe cold.

(6) That extended protraction of migration southward and the passage further south of regular winter and resident species, that are uninfluenced by sudden ice and snow, are due to adjustment in distribution that prevents over-crowding, and not to climatic reasons.

(7) That fixity in destination in the majority of birds is as essential as migration itself, for without it there could be no uniformity of dispersion.

(8) That time, experience, and a high order of intelligence have brought about the adjustment necessitated by physical conditions.

Loomis was elected an Associate of the American Ornithologists' Union in 1883, and attended his first congress in New York in the fall of 1889, making a very favorable impression on all present by his enthusiasm, ability and knowledge, and was made a Fellow in 1892. For about a year he held a position on a newspaper owned by his uncle in New Jersey, and in 1891 was a regular attendant at the meetings of the Linnaean Society of New York. Two papers he read there were published later. But the call of the open was too strong, and he soon returned to South Carolina to begin the life of a cotton planter and to teach in his father's school. Though successful in both such contrasting employments, his interest in birds grew steadily greater. About this time the early signs of tuberculosis manifested themselves, and the outdoor life he loved became a necessity. Possibly his failing health may have been one of the causes that induced him to sever his connection with the school and consider seriously making ornithology his profession.

South Carolina gave him the outdoor life he wished, but his persevering work had about exhausted the avian possibilities of his neighborhood, and evidently the desire for new fields was too strong to resist, for in 1893 we find him a student at the Hopkins Seaside Laboratory of Stanford University at Pacific Grove, California, and collecting actively for the Stanford Museum. There he formed the acquaintance of Mr. Edward Berwick, who allowed him to collect freely on his ranch in the Carmel valley, and who has written me of his indefatigable industry there, and also later, when he was studying the birds of the Pacific off Monterey, how he would spend all day in a small boat on the open ocean in all sorts of weather, no exertion being too much for him or danger too great if thereby some new ornithological fact might be gleaned. This friendship remained unbroken until his death.

His work in taxidermy, developed when the birdskins of many were by no means things of beauty, shows the aesthetic instinct was strong in him as well as the scientific, and he was thus one of the leaders in the era of beautiful birdskins, which has spread across the continent and is invading Europe. There can be no doubt that it was from the experiences of this trip that his absorption in water-birds began, which was later to center in the Tubinares. Monterey and its vicinity is probably the best place on all the seacoast of North America to study these birds, and as he sat in his small boat and watched their thousands wheel past, noted the many species, and realized how comparatively little was known about them in comparison with land-birds, his active mind sensed no doubt untold problems, and longed to begin solving them.

He then returned to South Carolina to work up his California Collections, his "California Water Birds, No. 1. Monterey and Vicinity from the Middle of June to the End of August" embodying the results of this study. Soon, however, he was invited to become the head of the Natural History Museum that was planned at Stanford University, and came to California to fill this position; but financial matters making it impossible for Stanford to carry out these plans, he accepted in 1894 the position he was offered of Curator of Ornithology in the California Academy of Sciences, whose collections were stored in the fourth story of a large cement building on Market Street. San Francisco, the rent of the rest of this building constituting the chief funds of the Academy. The Academy at that time was a small and struggling institution, almost wrecked spiritually by the scientific warfare that had swept over it a few years earlier, as the earthquake and fire were destined to wreck it physically a few years later: there was even a possibility it might be swallowed by other institutions, anxious to utilize its printing fund. Its collection of birdskins, though including some of much historical and scientific value. was but small. Here at last Loomis found room for his energy, enthusiasm and ability, and things began to develop rapidly. Beautiful series of the skins of land and water birds appeared speedily under his deft fingers and those of his assistants, and his persuasiveness enlisted the financial help of men of wealth in San Francisco.

In 1902 he was elected Director of the Academy, a position of power but carrying no increase in his meagre compensation as Curator of Ornithology. But little did Loomis care for that, his whole heart and soul were bound up in the study of ornithology, and in making the California Academy one of the great scientific institutions of the world. For a time he seemed in a fair way to realize his ambition, the collections of the Academy, especially that of water-birds, grew with amazing rapidity, as did the library, and he was active in all domains of science. A trip to the Farallon Islands, which he soon made, showed him how inimical to the welfare of the birds there breeding was the work of the eggers, who annually brought thousands of eggs, particularly of the Murre, to the San Francisco markets. Immediately he became active in their defense, enlisting the aid of the California Legislature, and of Theodore Roosevelt, already an active conservationist, and the Farallons were made a Reservation, on which none could trespass, even scientific collecting being prohibited. That this last result was altogether to his liking we may be sure

Auk Jan was not the case, as he believed most firmly in scientific work of all kinds, and, I have no doubt, often sorrowed that his labors had barred the scientific student as well as the eggers. But he did at least save the birds, and more sensible views some time in the future in those of authority will no doubt open this reservoir of knowledge to those who can put it to good use. And the eggs themselves constitute one of the natural resources of the country, and should be used and not abused, as has been done for generations with similar colonies of seabirds in the Old World. But we Americans seem unable yet to choose the golden mean, we either revel in unbridled license or shut the door completely by prohibition. Let us hope that some day the nation will reach the moderation of middle age!

Attending a meeting of the American Ornithologists' Union in the fall of 1902 he invited the Union in the name of the California Academy of Sciences and the Cooper Ornithological Club to hold a special meeting in San Francisco the following spring, which was accepted. This was in some ways the culmination of his career, not only was he in a position to do to the fullest the work he loved, but he had with him for a time old friends with a kindred love of nature to rejoice with him in what he had accomplished. No one who attended that Congress and took part in the subsequent excursions to points of ornithological interest will ever forget it and its joys.

Under his administration the Academy was thriving in a wonderful manner, and his teaching ability was showing itself by the training of young men as collectors and scientists to carry on when he should be gone. Rollo H. Beck, who has been for many years nead of the Whitney Pacific Expedition of the American Museum of Natural History, Edward W. Gifford, Curator of the Museum of Anthropology of the University of California, and Alvin Seale, head of the Steinhardt Aquarium of San Francisco, were his boys, to whom he disclosed the joys of nature study, taught his own skill in taxidermy, inculcated the scientific standpoint, and instilled a respect and fondness for himself that the years have but strengthened.

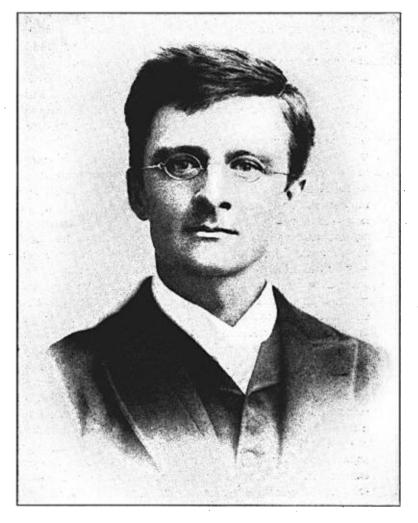
But this picture of peace, happiness and scientific achievement was rudely broken. On April 18, 1906, came the earthquake

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followed by fire, and the Academy building and its contents tumbled like a house of cards. He has himself told me how he crawled up the crumbling staircases with the fire coming ever nearer and the ever-present danger of another shock that would overwhelm the tottering ruins, and rescued some of the most precious papers, books and birdskins, before he was forced to remove his crippled father and himself beyond the raging conflagration. And then he did not sit down and mourn over the destruction of what had been his lifework and joy, but made at once plans for the future that a new and greater Academy might rise from the ashes of the old. Only a man of his stern and uncrushable determination could have filled the place. Even then under the care of Mr. Beck a boat was approaching San Francisco laden with the spoils of the Academy's seventeen months' trip to the Galapagos Islands, and how great that collection was the reports that have been since printed tell. In the awful confusion, how great none of us who were not there can even imagine, and the profound depression of spirit of those who saw their all and hopes for the future lost, he never faltered, was sure San Francisco would arise fairer than ever, and laid his plans, and when the boat sailed in he had rooms ready for the collections and in his mind plans for a far greater institution. Then he constituted himself an insurance agent, and with the assistance of his friend, Mr. Theodore Hittell, collected from the companies the entire insurance of the Academy; a real estate broker, and leased to good advantage the Market Street site of the old building; a politician, and induced the Legislature to declare the Academy property free of taxes forever; and an architect and builder, overseeing the plans for the new building and taking heed these plans were properly carried out, and in wisdom using his influence to have the new building placed in Golden Gate Park, so that any possible future holocaust would leave the collections unmarred; and, in addition to all this, collecting most actively himself and through his assistants, asking the museums and libraries of the world to contribute what they could spare, and thus by 1912 amassing another collection of 19,000 birdskins, comprising one of the finest series of Tubinares in the world, and a new scientific library of great size and value.

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PLATE II.



LEVERETT MILLS LOOMIS IN EARLY MANHOOD.

Vol. XLVI 1929 BISHOP, In Memoriam: Leverett Mills Loomis.

His work on the ocean near Monterey he continued personally or through his assistants, and from these labors and collections the other parts of his "California Water Birds" was written—a series of papers that give a full account of the water-birds living, migrating or wandering in that part of the Pacific during the entire year, and more valuable for exact information than any similar set in existence. But he was not contented simply to write ornithological papers, his aim was to express his thoughts in the best English for the purpose, accurate and concise and with the meaning never clouded by rhetoric. His friend, Mr. Ransom Pratt of San Francisco, tells me that for over twenty years he tried to condense into one lucid sentence the causes of bird migration before he felt satisfied with the result.

During these years he added several new birds to the list of those known to occur in California, and described one subspecies— Junco hyemalis pinosus, the Point Pinos Junco, named for its home at Point Pinos off whose rocky coast he had spent so many hours and days. Of this latter, though a good subspecies as subspecies go, he once told me he was much ashamed, as the time came when he felt that minute, unstable differences should not be dignified in nomenclature, that species have a genuine existence but that subspecies are figments of the imagination. Not that these differences that have been named do not exist, as he said when he and I were examining his stand, but that they had no intrinsic value, only extrinsic and evanescent. And he had all right to his belief, as so far no one has been able to prove the contrary—that they are incipient species.

Off Monterey at certain seasons wonderful flights of Shearwaters occur—I remember one a few years ago that must have contained millions of the Sooty, and all through the year Tubinares are to be found of species differing with the seasons, and some of them not recorded from elsewhere in the Western Hemisphere. As these birds never leave the oceans except to breed, few can study them in life and still fewer have sufficient series to render their closest decisions of value. What wonder that Loomis became more and more enthralled in the study of this group, as he had the field experience, the necessary specimens, the literature, and the scientific training to master the problems

presented! And more and more his mind became fixed on these birds, the first fruits of his study being "A Review of the Albatrosses, Petrels and Diving Petrels," published in the 'Proceedings' of the California Academy of Sciences for 1918. Before this however, in 1912, he had lost his position as Director of the Academy; but his interest in its collections and his love for the institution never abated. With the activity he showed in so many different quarters, the reformer's sureness he is right, and the inability to compromise, which we have seen was innate, he could not fail to make active enemies, enemies who often believed he was wrong as sincerely as he believed he was right. They became many and he was one, though with loyal friends, and finally their views prevailed. But though he might lose his position and power his love was still with the Academy, and he was planted so firmly in the soil of San Francisco that transplanting was impossible. The books were there, the birds were there and his heart was there. So day after day for more than fifteen years if one entered the bird-room of the Academy one would find him seated by a window, his books about him, his beloved Tubinares easily accessible, and his whole spirit immersed in the study which he believed would bring more light to the world on these wandering seabirds. Thus he sat day after day, month after month, year after year, reading, conjecturing, planning, seeing ever deeper into the relations of these birds, adding now a reference, then polishing a sentence, and receiving with joy his friends from near and his friends and fellow students from far away. Short weekly trips to the beautiful environs of San Francisco, and holidays spent with Mr. Berwick at Pacific Beach were his chief diversions. Thus these later years were passed in intense study, leaving him always a little thinner, a little grayer and a little more bent. But with the years went also the sternness that had been his in the days of conflict, his countenance became ever more genial, and I felt when I was with him last at the annual meeting of the Cooper Ornithological Club in San Francisco in April, 1927, that he had at last attained peace.

Thus death found him on January 12, 1928, after a short contest with the acute pain of angina pectoris, at harmony with the world, the Academy marching forward on the course he had planned, and the work to which he had devoted all the knowledge and wisdom of his riper years almost ready for the press. And so we must leave him, the Academy and his "Tubinares" his monument.

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