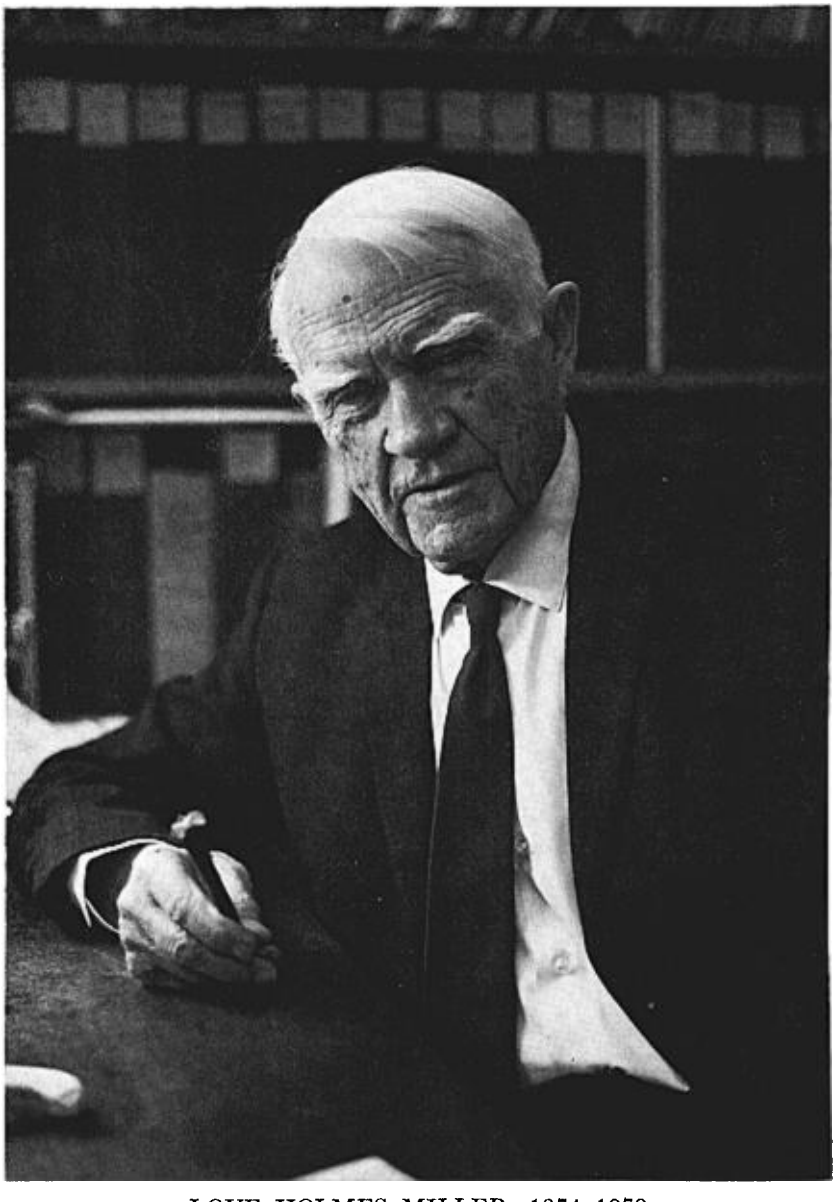

LOYE HOLMES MILLER, 1874–1970

(Photographed in his office in Storer's Hall, University of California, Davis, on his 93rd birthday)

IN MEMORIAM: LOYE HOLMES MILLER

HILDEGARDE HOWARD

LOYE HOLMES MILLER has remarked that his years were filled with adventure. "Not hair-breadth escapes," he said, "or foolish escapades, but spiritual adventure."[1] From the age of four when he attempted pursuit of a brilliant oriole through the sagebrush on a morning in spring, to the beginning of his 96th year, the eagerness of that morning, the new wonders of nature to explore, the questions yet to be answered imbued his life with the continual joy of search and discovery.

His parents, George and Cora Holmes Miller, had lived in the rural areas of the south, and they bequeathed to their son a love of the out-of-doors and its wildlife. Cora Miller had loved and roamed the woods of Alabama and Mississippi; George Miller was brought up on a farm in Minden, Louisiana, cleared from the wilderness. He had been a teacher before becoming a soldier in the Confederate army, and later educated himself in dentistry. Loye was born in Minden on October 13, 1874. In 1877, under stress of the reconstruction period in the south, the family moved to Riverside, California. Here, on a ranch in a clearing on a sagebrush desert, Loye and his four brothers and sister were in daily contact with a virtually undisturbed natural environment. At the age of five, Loye was walking the mile to school across the desert, dawdling on the way to try to catch a horned toad, snare a burrowing owl, or watch a flight of migrating cranes. Nests were discovered, robins and waxwings were watched for during the early fall rains. Speaking of those robins in a letter written many years later, he said, "I wandered about in the rain hunting them (like the little savage that I was). But I enjoyed a thousand of them singing in the rain (like the poet that I was down within my small soul)."

An egg collection was started, but later replaced by bird skins, prepared under the tutelage of an 8th grade teacher. Father Miller was a good hunter, and his children learned from him the use of guns. They played at camping. They shot small game for their "camps" and for the home table. With the cleaning of game and the preparation of bird skins came an acquaintance with anatomy and an interest in the differences to be seen in the skulls of different kinds of birds.

The ability to imitate bird calls, which Loye Miller used to good advantage through the years in the study of birds, and which, along with

[1] Quotations are taken from letters, unpublished notes, and publications of Loye Miller.

his singing of old southern songs, so delighted his students and friends in the field and around the campfire, also came as part of his growing up. His father often mimicked the birds, and his parents sang the old songs and gospel hymns together. Singing and bird calling became a part of life. At this time, too, he and his brothers developed the little "owl call" that became his characteristic greeting of students and friends throughout his life. It was a made-up note, but one which, to his astonishment, he later heard while in the field far south of the border of the United States.

High school days brought expanded horizons. A highlight of this period, he recalls, was a gift from his parents of his first scientific book, Coues' "Key to North American birds." Learning to classify birds and plants added a thrilling dimension to nature. Vacation trips to nearby canyons and mountains with schoolmates brought new discoveries, among them the dawning realization of differences in life zones. During this time, also, his first published bird observations appeared, in Ornithology and Oölogy for July, 1893. And finally, in his senior year in high school, the experience of laboratory chemistry coupled with a discerning teacher's suggestion that he become his "voluntary assistant," engendered in him the decision to become a teacher of science.

Although from his published writings, Loye Miller is best known as an ornithologist, and particularly as a paleornithologist, his interest in nature knew no limits. At the University of California, Berkeley, where he worked his way through college, his B.S. degree (1898) was in Chemistry, his M.S. (1904) in Zoology, with a thesis on salamanders, and his Ph.D. (1912) in Paleontology, his thesis on fossil birds. Furthermore, an interest in marine biology, inspired by Professor William Ritter at Berkeley, continued over the years on his many cruises with the oceanographic staff of the Marine Station at La Jolla, California, and the U. S. Department of Fisheries. It was this multi-faceted interest that gave him the background for understanding and interpreting nature to his many students, and imbued his scientific writing with a heartening sense of the orderliness of life.

In 1900 before completing the work for his master's degree, Loye accepted a position in Honolulu as Instructor at Oahu College (now known as Punahou School), which was then the institution of highest learning on the islands. Here he was to teach a variety of scientific subjects, plus "Rhetoric" and "New Testament." Between his first and second year in Honolulu, he returned to Riverside to marry Anne Holmes, whose family, like the Millers, were old-time residents of the area, although the children's paths had not crossed until they were grown. This was a rich and fulfilling marriage of almost half a century.

In 1903 the young Millers decided to return to California before

becoming "Hawaiian for life." An assistantship in zoology at the University saw them through the year at Berkeley necessary to complete Loye's M.S. Then, two months before his 30th birthday, Loye Miller was appointed as Instructor in Biology at the Los Angeles Normal School. From this position he advanced through Assistant and Associate professorships, to full Professor and Chairman of the Biology Department of U.C.L.A., as the Normal School evolved into the Southern Branch of the University and finally into the University of California at Los Angeles. He literally built the U.C.L.A. Department of Life Sciences. Staff—facilities—collections—field work, all developed under his guiding hand. He also was instrumental in establishing a happy liaison between the Los Angeles campus and the University's newly acquired Scripps Institution of Oceanography at La Jolla, California. And no press of administrative duties lessened his ability to be a friend to every member of the staff. It is no wonder that he became known to his associates as "Padre," a title that expressed devotion and respect far better than a formal "Professor Miller."

During his early teaching years, other important events were taking place in Loye Miller's life. In 1906 and 1909, his sons, Alden Holmes and Holmes Odell, were born. (And in the course of time, his life was further enriched by grandchildren and greatgrandchildren.) His sons both chose scientific careers, Alden in Ornithology, Holmes in Geology, and pursued their callings with the same devotion to learning that characterized their father's life.

As a teacher, Loye Miller was able to instill in his students the same desire to search and to learn that he himself felt so keenly. Also he was a very reverent man. He knew the Bible well, and often quoted it. He was sometimes called upon to counsel students who found it difficult to reconcile a theological background with college science courses. "Be a searcher after truth in all places and in all humility," he advised, "and with such openness of mind that truth may be perceived as emanating from the source of all truth. Faith is the confidence in the ultimate victory of truth."

He regularly took his students from the classroom onto the campus where they might observe nature apart from the textbook. His paleontology classes spent many fruitful hours collecting in the fossil deposits of nearby areas. Each class in zoology was invited to the Millers' home on the brink of the Arroyo Seco in Pasadena, where native plants were preserved and wildlife abounded. On many a weekend, Padre accompanied colleagues and students to mountains, desert, or coast. On these memorable trips, days were spent in observing wildlife or in collecting fossils. Birds were often brought to close view with bird calls. Nights

about the campfire were enlivened with songs to the accompaniment of Padre's guitar and rich baritone voice, and often a chat between him and the Great Horned Owl of the vicinity.

To Loye Miller firsthand acquaintance with nature was an absolute essential. Textbooks had their place, but his laboratory was the out-of-doors. He was in the field whenever his other commitments permitted. While still a student, in 1897–99, he frequently conducted bird walks for other students and members of the Zoology staff at Berkeley. Similar excursions were conducted to coral reefs and mountains during his stay in Hawaii. Later, as his sons were growing up, the entire family vacationed together each summer. In 1912–14, during these vacations at Forest Home in the San Bernardino mountains, he conducted nature study schools for the campers. In 1917 he was the naturalist on the staff of a 6-week summer school at Yosemite, organized by a group of Long Beach teachers. As a vacationing camper at Fallen Leaf Lake in the summer of 1919, he shared his nature walks with fellow campers who, as the group enlarged, insisted on paying him 50 cents apiece for the privilege. At the lodge he also often took his turn with others entertaining at evening campfire, where his nature stories and imitations of bird songs were universal favorites. These activities brought him to the attention of Stephen T. Mather, Director of National Parks, and resulted in his presenting, with Harold C. Bryant, in 1920 and 1921, the first of the Nature Guide programs at Yosemite, which grew into the Ranger Naturalist Service for all national parks. In 1926 and 1927, at the request of Ansel Hall who then headed the Park Service nature education program, he initiated a similar program for Crater Lake, Oregon. Here he was assisted by his son, Alden. As in Yosemite, the guides at Crater Lake were called "temporary rangers" and, according to Padre's notes, their duties included, in addition to nature programs, "directing traffic, comforting crying babies, rounding up stray dogs, and a wild drive down the mountain to Medford Hospital with a writhing appendicitis patient and his distracted wife in the rear seat."

Padre Miller was well acquainted with the wildlife of many of the United States, particularly of Arizona and California. And he had made numerous cruises on the launch 'Scripps,' and her successor, the 'E. W. Scripps,' along the coast of southern California and the offshore islands. More extended trips had taken him to Baja California and other Mexican states, and to Salvador and Panama. His years in Hawaii had also acquainted him with the fauna and flora of those islands. Fortunately he was a good diarist, and kept excellent notes on his trips. His original diaries have all been deposited in the Bancroft Library on the Berkeley campus. His publications, many of which were based on these notes,

reflect his alert awareness of wildlife wherever he found it—in far off Panama or in his own back yard. In addition to his many distributional records of birds, which have played their part in constructing the larger overall picture of avian distribution, he wrote frequently of the songs of birds, and on experiments in imitating bird calls in the field. He wrote, also, of observations concerning food habits, nesting, and migration patterns. Nor did he confine his contributions to birds. Tortoises, several mammals, amphibians, and even fish claimed his attention as well.

Loye Miller's study of fossil birds began with the recovery of the tar-impregnated bones from the Pleistocene asphalt pits at Rancho La Brea in Los Angeles. He had previously had the benefit of geology classes with Joseph LeConte in Berkeley, and had spent a summer in a party headed by John C. Merriam in the famous John Day Basin of Oregon, collecting modern birds and fossil mammals. It was Merriam, in 1906, who introduced him to the Rancho La Brea deposits. I have heard him tell the story (and it is recorded, also, in his autobiography, "Lifelong Boyhood") of his first visit to the tar pits—walking across the fields from the car line with Merriam to the old Hancock ranch house, with a partially excavated pit nearby, from which the university had been recovering fossil bones. That first day he picked up a thoracic vertebra of a saber-tooth cat, which (as a symbolic torch) he later passed on to me as his first "academic daughter." For three years he collected at Rancho La Brea whenever his teaching duties permitted. His first interest had been to obtain mammal bones for use in a series of lectures on comparative anatomy that he was presenting at the College of Physicians and Surgeons. But the many bird bones found soon took precedence. For many years he had assembled, by beachcombing and other scavenging, a collection of modern bird skeletons. From this acquaintance with avian osteology the general relationships of some of the fossil bones became apparent. But in many instances differences were equally evident, and to a man of his inquiring, eager mind these were especially challenging. To him these ancient creatures were not dead birds. They represented an avifauna that had occupied the area before he could meet them, but they were nonetheless alive. They supplied a third dimension to the study of biology. "The past," he said, "supplies the background for the present and we see the present as a product of the past."

In his many scientific papers on fossil birds, the first of which was published in 1909, he combined the technical necessities with views on the meaning of the occurrences in terms of living birds and their habits and habitats, calling upon his wide knowledge of nature to paint a vivid picture. He was well aware of the pitfalls of abstruse scientific writing, and the necessity of making his subject interesting as well as truthful.

Regarding fossil birds he has said, "I must bring to life a creature that has been silent for perhaps 20 million years." He felt that "Science, like art, should lift the eye, enlarge the vision; should stir the soul of man and plumb the very depths of his feeling." A delightful example of his bringing to life the birds of the past is found in his paper describing an extinct petrel found in a marine-laid shale deposit in California. "The tiny storm petrels," he wrote, "are birds of the open ocean that remind one of misplaced butterflies flitting among frost-capped blue hills touching the surface as lightly as butterflies, and when their time comes, sinking into the ocean's quiet depths, rarely to be entombed in sediments and become immortalized as fossils millions of years later."

At the time Loye Miller became interested in the Rancho La Brea fossils, there had been only one fossil bird bone recorded from California. By 1912, when he received his doctorate, he had studied several hundred specimens and had recorded 65 species from five localities, naming 14 newly discovered extinct forms. Continued additions over the years resulted in a total of 42 extinct species and 12 extinct genera bearing his name as describer, and hundreds of records of modern species found to have been living in prehistoric times. Besides the Rancho La Brea birds, other important California fossil avifaunas that he discussed include those from the Pleistocene asphalt beds at McKittrick and Carpinteria, and marine birds from the Miocene of Sharktooth Hill in Kern County and Lompoc, Santa Barbara County, and the Pliocene of San Diego. One very important out-of-state avifauna he recorded in detail from a cave in Nuevo Leon, Mexico. A number of localities of lesser yield were recorded from southern California, Idaho, and Oregon. Although the initial work on fossils stemmed from his own collecting and from the University's collections, he was later consulted by Stanford University, the Los Angeles County Museum, and the California Institute of Technology. The types of his described species are now in the University of California Museum of Paleontology in Berkeley and in the Los Angeles County Museum of Natural History (which now contains, as well, the California Institute of Technology material). A great wealth of other fossil bird material that he collected and studied over the years, as well as quantities of bones of birds and mammals from archaeological sites, he deposited with U.C.L.A. Also at U.C.L.A. is his collection of several thousand skeletons and skins of modern birds and mammals.

In addition to his own publications on fossil birds, Padre Miller developed a wide school of avian paleontology by his encouragement of others to enter the field. Today as a result of his leadership, more than 250 species of birds have been recorded from 50 fossil localities in

California, including nearly 90 extinct species, and covering a period of 50 million years in geologic time.

After Padre's official retirement from teaching and department chairmanship at U.C.L.A. in 1943, he retained an office on campus where, as Professor Emeritus, he continued his research and writing and was available to students (and staff) for counsel. About one-third of his published work was accomplished after his retirement. In June 1951, shortly after the death of his wife, Anne, he went to Berkeley, where an honorary L.L.D. degree was conferred upon him by his Alma Mater, the University of California. For several years he lived with his son, Alden, and family in their home in the Berkeley hills. Later he returned to Los Angeles to take up residence with his niece, Alice, and family, the Fred Addicotts, and in 1961 moved with them to Davis, California, when Dr. Addicott, a professor of botany was transferred to that campus of the University. At Berkeley, and also at Davis, Padre had an office on campus and continued his scientific activities. He was counselling students in his office at Davis scarcely two weeks before his death on April 6, 1970.

Loye Miller was a Life Member of the American Ornithologists' Union, joining in 1918 and elected a Fellow in 1930. He was also a member of two scholastic honor societies, Phi Beta Kappa and Sigma Xi, and many other distinguished scientific organizations, in which he received honorary recognition. The most recent honor was conferred upon him in 1969 by the Association of Interpretive Naturalists in recognition of his pioneer work in nature guiding. Of the many honors received in his life, none gave him greater joy than a presentation on his 90th birthday, from the Zoology Department of U.C.L.A. of an especially designed quarto volume made up of 30 research papers by members of the staff. The flyleaf is inscribed to "Loye Holmes Miller, Professor of Biology at the University of California, Los Angeles, affectionately known as 'Padre' . . . testifying to the continuing viability of the department whose growth and development he guided." Padre said of this gift, "*That* is my new degree . . . given me *Amoris causa!*"

Loye Miller's biography appears in "Men of science," and from 1928 until he withdrew it at the time of retirement, it was included, as well, in "Who's who in America." His bibliography contains about 200 titles. Many of his papers, of course, were published by the University of California. Others have appeared in all of the ornithological journals of the United States, as well as in Science, the Journal of Mammalogy, Copeia, and publications of the Carnegie Institution of Washington, the California and Southern California academies of science, the San Diego Society of Natural History, the Los Angeles County Museum, and many

others. A partial list of his ornithological papers is appended. In addition to his publications, three sets of recordings were issued: "Music in nature" (1942), in which his bird calls are captured, "Campfire smoke" (1949), a delightful series of stories suitable for children—young and old, and "Old songs and spirituals" (1960), made in his 85th year but still in strong voice. More recently, at the request of the Bancroft Library Archives, of the Department of Oral History, University of California, Berkeley, his reminiscences were tape-recorded in an interview with Mrs. Lois C. Stone.

Padre Miller will be remembered as the founder of avian paleontology in California, as a pioneer in the nature guide program in the national parks, and as an ornithologist and naturalist of wide experience. But more particularly he will be remembered as a person, for the inspiration that came with his readiness to share his knowledge and enjoyment of nature, his ability to summon the wild birds with perfect imitation of their calls, his understanding of the problems that beset the student, and his wise and helpful counsel. These are the things that those who knew him will always remember. Fortunately his rich speaking and singing voice and his bird calls have been captured on disc and tape, and many of his publications reflect the warmth of his personality. His autobiography, "Lifelong Boyhood," published by the University of California Press in 1950, is especially to be recommended, not only as an account of his life, but for a glimpse of the spirit and philosophy of the naturalist, and as an inspiration to all students of nature. The closing sentence of this book very well summarizes how he felt about his years on earth. "I am grateful," he wrote, "that a kindly Providence has led me in the path of Nature these many days of my life."

A PARTIAL LIST OF ORNITHOLOGICAL PUBLICATIONS BY LOYE HOLMES MILLER

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Los Angeles County Museum of Natural History, 900 Exposition Boulevard, Los Angeles, California 90007. Accepted 9 August 1970.