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HERBERT FRIEDMANN

1900—1987

A Biographical Memoir by
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Biographical Memoir

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Herbert Friedman

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April 22, 1900–May 14, 1987

BY S. DILLON RIPLEY

HERBERT FRIEDMANN, innovative museum director and long a productive zoological curator, was one of this country's most scholarly ornithologists. His technical specialties focused on the evolution of brood parasitism in birds and other aspects of bird behavior, avian taxonomy, cerophagy and wax digestion by honey guides, and the significance of animal symbolism in the art of the Renaissance and Middle Ages. Elected a member of the Academy in 1962, Dr. Friedmann was born in Brooklyn on April 22, 1900, and died, of cancer, at Saddleback Hospital in Laguna Hills, California, on May 14, 1987. He is survived by his wife, Karen Juul Vejlo, of Laguna Hills; one daughter, Karen Friedmann Beall (Mrs. Dale K. Haworth), of Northfield, Minnesota; and one brother, Ralph Friedman, of Manhattan.

In his eighty-seven years, Herbert Friedmann never ceased his pursuit of intellectual challenges, offered by a broad range of interests. These overshadow his less well-known achievements in the field of museum administration. His reorganization of the Los Angeles County Museum is testament to his leadership abilities. Yet he will be best remembered as a thoughtful scholar. In the following pages I provide a brief outline of his life and his major accomplishments and hope to impart a little of his gentle charm

and wit, which I first came to know when, in 1941, I worked as an assistant curator under his benign tutelage at the then-named United States National Museum, in Washington, D.C.

Herbert Friedmann spent his childhood in Brooklyn, where his father was a druggist. The elder Friedmann had left his native Lithuania as a young pharmacist in the early 1890s and was followed by his wife-to-be (a teacher) a couple of years later. Herbert was the second of four sons. The demands of a drugstore left little time for family outdoor activities, but the great resources of New York City served the sons well, not only the three who gravitated to professions in law, medicine, and finance but the future naturalist as well. In addition to the strictly educational resources, the young Friedmann enthusiastically took advantage of available standing room at the city's centers of performing arts and treasured forever his memories of such luminaries as Caruso, Melba, and Isadora Duncan.

Friedmann's interest in birds developed gradually. By the time he was twelve years old, museums were his favorite haunts, in particular the Metropolitan Museum of Art and the American Museum of Natural History. In his high school years he and a brother joined a bird club, and he later started keeping detailed records of birds he saw in the parks of New York City and its vicinity. When he entered City College of New York at the age of sixteen, the thought of studying birds was taking shape. Summer jobs on a tobacco farm in Connecticut and a dairy farm in New Jersey gave him added opportunities to observe birds. Because the armistice was signed a few months after his enlistment in military service, his education was not delayed by overseas military service. His first serious ornithological study was carried out at the New York Zoological Society's Bronx Zoo and was later published under the title "Weav-

ing of the Red-Billed Weaver Bird in Captivity." This work so impressed Dr. William Beebe that he urged Friedmann to seek a scholarship to Cornell University to study birds. In three postgraduate years at Cornell, Friedmann completed his doctorate. His dissertation addressed the behavior of brood parasitism by cowbirds. The study was enlarged through field work abroad and appeared later in book form—*The Cowbirds: A Study in the Biology of Social Parasitism*, a work that after six decades continues to be cited as a key reference on this subject.

After teaching a summer course at the University of Virginia in 1923, Friedmann was affiliated with Harvard University as a postdoctoral fellow of the National Research Council, under the tutelage of William Morton Wheeler. Much of this fellowship was spent in the field, in Argentina (1923–24), on the Mexican border (May 1924), and then in Africa (1924–25). He made extensive zoological collections during his overseas expeditions (a tree with its remarkable composite nest of colonial weaver birds is still at the American Museum), and the African fauna in general captivated his imagination. Decidedly his primary interest, however, was bird behavior reflected in the social habits of the weaverbirds and brood parasitism of cuckoos, honey guides, and weavers.

Following his postdoctoral studies, Friedmann taught in the Biology Department at Brown University (1925–26) and at Amherst College (1927–29). While at Amherst he scheduled his teaching so that he could spend several days each week working at the Museum of Comparative Zoology at Harvard. During this period his research centered on African ornithology and brood parasitism.

Friedmann's studies of African birds made his appointment as curator in the Division of Birds, U.S. National Museum, a logical step toward his goal of devoting full

time to ornithological research. His deep interest in museum research was evident from his close association with the American Museum of Natural History during his undergraduate years at City University and later his affiliation with the Museum of Comparative Zoology during his years in Massachusetts.

Friedmann had barely settled in at the Smithsonian when the 1929 stock market crash occurred and the heavy hand of the Depression began to make itself felt. A contemplated expansion of work into areas of bird biology had to be largely abandoned, and the lack of funds also brought retrenchment of publication schedules for larger works. Friedmann's publication of seventy papers and several books during this period indicates the amount of energy that he dedicated to his various ornithological pursuits.

In March 1942, on my own first day as an assistant curator of birds at the U.S. National Museum, I had the opportunity to meet Herbert Friedmann. As a new curatorial replacement for the late J. H. Riley, I shared a book-lined room with Herbert Deignan, and Friedmann himself, and began to learn the scope of my new position. The two Herberts showed me the Bird Division, its huge gallery of collections, and the windows that gave the best available natural light for examining bird specimens.

Returning to Mr. Riley's old rolltop desk, I heard a dull rolling sound out in the corridor. The rolling sound stopped in the doorway, and I could see the dim shine of brass, in heaps on the platform of a large dolly. In came an extremely cheery man carrying a brightly polished spittoon. He approached my desk, bent down, and reverently placed the brass object in the exact center of a square of rubber that I had noticed and wondered about earlier that morning. The rubber was stamped with a concentric series of

circles, raised in the center. The man fitted the spittoon exactly into the center of the innermost circle.

At that point, Herbert Friedmann exclaimed, "Oh no, Dillon, you don't want that thing." I noticed that his desk lacked the government-issue rubber squares.

"What's it for?" I asked.

"Riley chewed," explained Herbert. Riley, the former assistant curator, was an elderly tobacco-chewing Virginian.

I asked the gentleman to leave the spittoon. At an annual salary of \$2,600, it seemed to me that I had to grab whatever perquisites were offered, and so the spittoon stayed, refreshed each weekday until I departed the institution, with my doctoral thesis completed, three months later.

In the latter part of the thirties and during the war years, Friedmann found opportunity to pursue his interest in art—he took evening classes in drawing, painting, and sculpture at the Corcoran School of Art—and he developed a particular interest in the symbolic use of animals in art, spending a great many evenings in a reserved cubicle at the Library of Congress. The result was his widely recognized book *The Symbolic Goldfinch*, published in 1946 by the Mellon-financed Bolligen Press. It was a matter of more than casual interest to him—in fact, a source of some delight—that the National Gallery of Art was growing up on the Mall next to the U.S. National Museum at this time. John Walker, its second director, in his 1963 book *The National Gallery in Washington, D.C.*, describes the role Friedmann played in securing the Kress Collection for the gallery, one of only three collections to grace its walls when it opened in 1941.

Dr. Friedmann was to remain closely associated with museum-based ornithological research for the thirty-six years between 1925 and 1961. He served as curator of birds

at the Smithsonian from 1929 to 1958 and was head curator of zoology from 1958 to 1961.

The research work of Herbert Friedmann had a number of foci, and yet the scope of his interest was truly without limit, as evidenced by the appended listing of his major publications. He is perhaps best known for his work on the evolution of brood parasitism in birds, as practiced by the cuckoos, cowbirds, honey guides, and weaverbirds. A brood parasite builds no nest of its own, but instead lays its eggs in the nest of another species. The hatchling brood parasites are provisioned and raised by the host species, entirely without assistance from the biological parents. Once fledged, however, they soon cease to interact with the foster parent and join their own species. Friedmann detailed the morphological adaptations that allow the parasitic species to successfully reproduce in this remarkable manner. For the parasitic cuckoos, he delineated the striking polymorphism in pattern and coloration of eggs that mimicked those of the dominant host species in different parts of the brood parasite's range. In addition, he detailed the behavioral specializations that permit the parasitic nestling to prosper in the nest of the host, often at the expense of the true offspring of the nest owner.

Friedmann's interest in nest parasitism led him to the study of honey guides (family Indicatoridae). After extensive research in European museums during the summer of 1950, he spent the fall and early winter of 1950-51 studying the guiding habit of the bird—by which it leads humans to bees' nests—by direct field observations supplemented by interviews with naturalists and other local observers of birds in South Africa and Southern Rhodesia (now Zimbabwe). In twenty-three successful guiding trips supplemented by interviews with local observers, he established that this astonishing habit is not native myth but fact. After the sym-

biont opens the nest and removes some of the honey, the bird, Friedmann found, feeds on the wax comb, and not as formerly assumed on honey.

This study, in turn, led to his interest in the remarkable relationship between these birds and the wax combs of bees' nests. The honey guide is unique in its consumption of beeswax, which forms a considerable part of the bird's diet. Since wax was thought to be indigestible by vertebrates, Friedmann, after he returned to Washington, set out to determine the process by which honey guides achieved this metabolic feat. With the help of contacts he had established in South Africa and Uganda, birds were trapped and, courtesy of Pan American Airlines, sent to Washington. With assistance from experts in bacteriology and biochemistry, whose interest he engaged, the problem was studied during the following years. It was discovered that the bird possesses a digestive enzyme that aids in wax breakdown and that the bird also has had a species of gut microbe that is capable of wax digestion. Together, the bacterium and the alimentary enzyme are able to extract as much as 50 percent of the lipid content of the beeswax, which is then mobilized for the bird's assimilation. Friedmann also discovered that the bacterium, which he named *Micrococcus cerolyticus*, inhabits wild combs and that presumably the birds obtain their wax-digesting microflora from the comb itself.

The ability of the *Micrococcus* to break down wax has led to the study of its utility in combatting the bacillus that causes tuberculosis. That microbe is protected by a waxy cell wall, which now has been shown to be susceptible to attack from the *Micrococcus*. The manner in which Friedmann's work on nest parasitism led to the study of honey guides, which in turn led to a new understanding of wax breakdown, demonstrates the perspicacity and diligence of his

intellectual efforts. These faculties were also turned to his diligent studies in the realm of art history.

With his interest in animal life in general and birds in particular, and his love of art, Friedmann noticed the frequent depiction of animals in the works of the Old Masters. Studying the occurrence of wild creatures and the symbolism involved, he came to see the artists as early observers of nature, a link in the development of scientific natural history out of the mystical and allegorical beliefs dominating European culture's view of the natural world. His field of study was the art of medieval and Renaissance Europe. Friedmann focused on animals for their intrinsic interest rather than as ornamentation in the exclusively religious works.

A rich source of allegory for devotional art was St. Jerome and the "scorpions and wild beasts" which, according to a letter from his hand, were his daily companions. In 1,100 such art objects that he studied, Friedmann found that fifty-nine different animals had been used symbolically, some with great frequency. To represent them successfully, the artist had to know their outer appearance. Friedmann hypothesized that the rise of the natural science of zoology could occur only after this transformation in perception had occurred among the artists and intellectuals of the culture. This research was able to satisfy his native love of art while at the same time stimulating his still-questing intellect. It bespeaks a mind that remained remarkably vigorous even into his latter years.

As to the physical evidence of his intellectual efforts, Herbert Friedmann published seventeen book-length works, including *The Cowbirds: A Study in the Biology of Social Parasitism* (1929); *Birds Collected by the Childs Frick Expedition to Ethiopia and Kenya Colony, Parts I and II* (2 volumes, 1930, 1937); *Notes on the Ornithology of Tropi-*

cal East Africa (with A. Loveridge, 1937); *The Symbolic Goldfinch* (1946); *The Honey-guides* (1955); *The Parasitic Weaverbirds* (1960); *The Host Relations of Parasitic Cowbirds* (1963); *The Evolutionary History of the Avian Genus Chrysococcyx* (1968); and *A Bestiary for St. Jerome* (1980).

His technical and scholarly papers numbered more than 300. These can be grouped into several general areas of interest: nest parasitism by cuckoos, weaverbirds, and cowbirds; the avifaunas of Africa and South America; the behavior and wax digestion of the honey guides; taxonomy of North American birds; subfossil birds of archeological deposits; and zoological motifs in art. This listing, however, does not do justice to the full breadth of his contribution to the study of birds. He collaborated extensively with dozens of other researchers and made published contributions touching on nearly every bird group.

Dr. Friedmann was selected in 1961 to direct what was then the Los Angeles County Museum of Science, History and Art, succeeding another wonderfully knowledgeable and peripatetic ornithologist and aviculturalist, Captain Jean Delacour. At the time of his appointment, plans were nearly complete for separation of the art and natural history divisions into two museums. Subsequently, the Natural History Museum was granted a number of new positions—curators, exhibition staff, and so forth—and it inherited space vacated when art was moved out in 1965, offering great possibilities for expansion.

Friedmann carried on the innovations of Delacour and further strengthened the museum's potential for scholarly research. As director he sought a series of research and facilities grants that helped make the institution a world-class organization. Already at the Smithsonian he had actively served on a committee for the modernization of exhibits, and the Los Angeles Museum offered scope for such

efforts. The list of accomplishments during this period is impressive: complete new halls for Pre-Columbian, South Pacific, and African ethnology as well as for geology, entomology, and vertebrate paleontology and in such diverse areas as the history of transportation and settlement of the American West. The hall of California history was renovated, eight new habitat groups were added to the mammal hall, dinosaurs were placed in the foyer, and many smaller exhibits were developed.

In addition, expeditions were undertaken, a docent program was initiated, and the collections grew tremendously, partly as a result of the expeditions and partly from transfer of some university collections to the museum. With unflagging interest in the African fauna, Friedmann secured funds from the National Science Foundation for surveys of the fauna of little-known, isolated, dwindling forests in western Uganda in 1966-70, and the resulting collections further enriched the museum's holdings. During these years as director, he was also closely associated with the University of California, Los Angeles, where he had given the Leida Scott Brown lectures in 1957. The public lectures were a success, as were his seminars for the zoology faculty and students and also for the departments of bacteriology and art. After his return to Los Angeles he was appointed professor in residence in the Department of Zoology and later on (more briefly) in the Department of Art. In this capacity he participated in graduate seminars, presented guest lectures, and consulted with faculty and graduate students.

Following his retirement from the museum in 1970, at age seventy, he was appointed by the National Science Foundation to evaluate biological research programs in Antarctica.

Friedmann's scholarly, scientific, and administrative achievements were recognized by the award of a number of hon-

ors, including a Guggenheim Fellowship in 1950; the Leidy Medal of the Academy of Natural Sciences, Philadelphia (1955); the Elliot Medal of the National Academy (1959); and the Brewster Medal of the American Ornithologists' Union (1964). He served as president of the American Ornithologists' Union (1938–39); as president, section F (Zoology) of the American Association for the Advancement of Science (1959); and as president, Biological Society of Washington (1960). Friedmann was elected a member of the National Academy of Sciences in 1962. He was awarded honorary membership in the Deutsche Ornithologische Gesellschaft, the South African Ornithologists' Union, the Sociedad Ornitológica del Plata (Argentina), and the Sociedad Poey (Cuba), and he was an active member or fellow of a number of other scientific societies.

A gentle humor was a pervasive trait until the very end of Herbert Friedmann's life, appreciated by friends and associates and expressed sometimes in limericks, though most spontaneously in conversation. He penned a limerick that accompanied an exhibit on honey guides in the Los Angeles County Museum:

There once was a bird in Nigeria
Whose chatter grew weary and wearier.
Its demeanor grew lax
As it gobbled up wax,
Which it stuffed in its little interior.

Herbert Friedmann's wife, the former Karen Juul Vejlo, was a Danish agricultural economist. He met her while she was a visiting scholar at the Brookings Institution in 1936–37. Her work for the U.S. Department of Agriculture and later the Food Research Institute at Stanford University included many scholarly endeavors, and her additional preoccupation with family and home left little time for

participation in her husband's professional activities, but the associations they brought with naturalists and museums were always a source of delight to her. Seventeen years of retirement saw a constant sharing of mutual interests, whether with economists in Brazil, following birds in the Australian Outback, or pursuing St. Jerome in museums in Europe and the United States or, most of all, in the quiet hours at home.

The Friedmann's only child, Karen, followed her father's interest in art history and was for a number of years curator of fine prints at the Library of Congress. Now a research associate at Carleton College in Northfield, Minnesota, and an independent curator, she continues to work in the field of graphic arts.

Herbert Friedmann's ashes have been placed in a memorial step at the Oak Hill Cemetery in Washington, D.C., a five-minute walk from the Friedmann's first home in Georgetown.

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