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Ornithology, Evolution, and Philosophy: The Life and Science of Ernst Mayr 1904–2005

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Book Reviews

EDITED BY R. TODD ENGSTROM

The following critiques express the opinions of the individual evaluators regarding the strengths, weaknesses, and value of the books they review. As such, the appraisals are subjective assessments and do not necessarily reflect the opinions of the editors or any official policy of the American Ornithologists' Union.

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Ornithology, Evolution, and Philosophy: The Life and Science of Ernst Mayr 1904–2005.—Jürgen Haffer. 2007. Springer, Berlin. 464 pages, 74 figures, 4 tables. ISBN-13: 9783540717782. Paperback, $55.00.—We are fortunate indeed that this major biography of Ernst Mayr was written by Jürgen Haffer. I cannot think of a better person to have undertaken this task. Haffer is an oil geologist and avian systematist who worked for many years in the United States. He has published several important studies of the systematics and biogeography of birds in South America. After his retirement, Haffer analyzed the history of the species concept, the work of Erwin Stresemann, and German ornithology associated with systematics. Haffer corresponded extensively with Mayr and visited him several times. He had open access to Mayr family papers and to archives, both in Germany and in the United States, as well as contact with Mayr's two daughters and many of his close associates. Haffer started his work on this biography early enough so that he could discuss many aspects of it with Mayr himself, who read drafts of a large part of the volume. Certainly this book can be considered an official biography, but with no restrictions placed on the author.

This biography has its own history, including the fact that Haffer did not initiate it. The original historian was a young German, Thomas Junker, interested in the history of evolutionary studies; he spent a year in Cambridge, Massachusetts, collecting background information. I had long conversations with Dr. Junker in 1993, in which I suggested topics to cover in Mayr's career. Because Junker's expertise lay outside ornithology, he asked Haffer to join the project. Subsequently, Junker was not selected for a newly created position in the Ethics of Biology at Hamburg University. Without an academic position, Junker felt that he had to restrict his scholarly work and withdrew from the project; consequently, in addition to covering Mayr's contributions to ornithology and evolution, Haffer had to deal with Mayr's work in the history and philosophjy of biology (chapter 11). These subjects are definitely not Haffer's strong points, and he is self-conscious about his treatment of these subjects. I can well understand Haffer's concern, but I feel that he presents a credible analysis of Mayr's contributions to the history and philosophy of biology.

Considerable difference of opinion exists on what should be included in a scientific biography. One option is a detailed, scholarly treatment of the contributions made by the person. Another approach is a consideration of the whole life, including personality, education, positions, as well as an assessment of the subject's professional contributions. The former would have been an impossible task for a single person to accomplish and could not be embraced within a reasonably sized book. Haffer has taken the second approach and has provided a wealth of information about Mayr's life and career, including detailed material in 60 pages of appendices.

During his long career, Mayr became a specialist in several fields, including the systematics and biogeography of birds, systematics and zoological nomenclature, evolutionary theory, and the history and philosophy of science. Most ornithologists believe that Mayr's primary empirical work lay in the systematics and evolution of birds. However, his basic interest was avian biogeography, the topic of his 1926 Ph.D. thesis and his 2001 book, *The Birds of Northern Melanesia*. Even less known is that he published the ideas of island biogeography in a little-known 1933 paper on *Die Vogelwelt Polynesiens* in a Festschrift dedicated to Carl Zimmer, director of the Natural History Museum in Berlin.

Mayr started his university training at Greifswald University, where he earned his Candidate of Medicine degree. Stresemann, the newly appointed curator of ornithology at the Natural History Museum in Berlin whom Mayr visited in 1923 on his travel to Greifswald, urged him to change his study to zoology, with the promise of an expedition to some exotic land. Mayr did so and in 1926 received his Ph.D., required for becoming a museum assistant.

After several unsuccessful attempts to place Mayr on an expedition, Stresemann was able to arrange one to New Guinea with support from Lord Walter Rothschild, Leonard C. Sanford (Department of Birds, American Museum of Natural History [AMNH]), and the Berlin Museum. Mayr left for New Guinea in 1928, and, before returning to Berlin, took part in the Solomon Island segment of the Whitney South Seas Expedition (WSSE). It seems irresponsible to send an untrained 23-year-old naturalist on an expedition to the wilds of New Guinea, but Haffer documents that Mayr received two weeks of training at the Natural

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History Museum in Bogor, Indonesia, and the loan of three native museum assistants who trained the totally inexperienced Mayr to become a highly successful explorer. During the first leg of this expedition, Mayr was reported as possibly killed, which resulted in a rescue party of police being sent in from the coast. Later, he was offered a bride and invited to join the tribe, to which he provided an evasive answer, and thus Mayr lost the chance of "a carefree life as the guest of a proper mountain tribe."

While abroad, Mayr received a telegram inviting him to join the WSSE for a year, as well as a message from Stresemann urging him to accept, saying that this could be advantageous for Mayr's future career, as indeed it was. Mayr accepted, which eventually led to a position as a Visiting Research Associate in Ornithology at the AMNH (1931–1932); immediately afterward, he was appointed the first and only Curator of the Whitney–Rothschild Collection (1932–1953).

A most important contribution of Haffer's book is his detailed treatment of Mayr's empirical work in ornithology from 1925 to 1953. Haffer includes the only published summary of Mayr's expedition to New Guinea and the Solomons, providing detailed itineraries, maps, and narratives for each segment. Few people outside of ornithology realize the significance of Mayr's empirical work in avian systematics and biogeography during this period. The knowledge he gained during his studies in Berlin and work in New York was fundamental for all of his later theoretical studies. Without understanding Mayr's ornithological work, it is not possible to have a complete appreciation of his later theoretical studies.

Mayr's schooling was in Germany, but he was basically an American scientist, working at the AMNH and Harvard for 75 years. Although he already had a good grounding in systematics, almost all of his understanding of evolution was gained after arriving in New York. Haffer shows that the reason Mayr came to the United States and stayed was that the position at the AMNH was far superior to any he could have attained in Germany. The vast collection of birds obtained by the WSSE was the best unstudied avian material available at that time, and it was increased greatly by the Rothschild collection in 1932.

Leonard Sanford (1868–1950) was a central figure in Mayr's career. Sanford perhaps did more than any other single person to develop the Department of Ornithology at the AMNH. Among other things, he obtained the funds for the Brewster–Sanford Expedition to the coasts of South America, for the WSSE, for the Whitney wing of the AMNH (which houses the bird department), for purchase of the Rothschild collection, and, perhaps most importantly, for getting Ernst Mayr to the United States. Mayr had a close relationship with Sanford and felt that he could not leave the AMNH while Sanford was living. Without Sanford's efforts, the AMNH would not have had the spectacular growth of the Department of Ornithology and Mayr's important contributions. Haffer covers this significant part of Mayr's career, as does Mary LeCroy (2005, Ornithological Monographs 58:30–49), but a full treatment of Sanford's contributions to the AMNH and ornithology is still lacking.

In the later part of the 1940s, Mayr tired of the hour-long commute between his home in Tenafly, New Jersey, and the AMNH. But more than that, he wanted to teach and direct graduate students. He accepted positions, for a semester each, as a visiting professor at the University of Minnesota (1949) and at the University of Washington (1952), which whetted his appetite for a university life. This became possible with an offer early in 1953 to be Alexander Agassiz Professor at the Harvard University's Museum of Comparative Zoology (MCZ). Haffer points out that 1953 marks a dividing point in Mayr's career between mainly empirical research and his more theoretical work in evolution and the history and philosophy of biology. Yet Mayr did not give up ornithology, and he served as President of the AOU (1956–1959) and of the 13th International Ornithological Congress (1962). Although he was not required to do so, he became the driving force and major editor for the remaining volumes of Peters's *Check-list of Birds of the World*, which was finally completed in 1987.

Haffer (chapter 9) gives a good assessment of Mayr's personality and general approach to life. Mayr was a teacher and was unhappy if anyone left his classroom confused or incorrectly informed. He was most amenable to discussion and to having his ideas challenged, changing them when they were shown to be incorrect. The Mayrs were most generous, opening their home to visitors and taking an active role in the post-World War II effort of the AOU to send food and clothes to European ornithologists. Mayr used almost all of the large cash prizes associated with his several international awards as endowments to the MCZ and donations to The Nature Conservancy, the Carroll Center for the Blind, and other organizations.

Haffer stresses that Mayr was a life-long naturalist and spent much of his free time when living in Tenafly observing birds in this still largely rural part of northeast New Jersey. A major reason for moving to Harvard was that the Mayrs could look for a rural retreat, which they did almost immediately, purchasing an abandoned farm on a dirt road in Wilton, New Hampshire. Weekends from late spring until Thanksgiving and summers were spent at The Farm. Visitors from near and far were invited, and several conducted research projects there. Mayr did much of his writing at The Farm and devoted considerable time to natural-history observations.

Haffer's biography reads easily and contains numerous photographs, maps, and other figures that make the text clearer. I doubt strongly that it will ever be replaced by a better treatment. The reader can obtain a good appreciation of the important circumstances in Mayr's career and how each accidental event was seized by Mayr and developed further. Haffer's treatment allows the reader to see how Mayr's early interest in avian biogeography and systematics merged smoothly into his work in evolutionary biology, into the history of biology, and finally into the philosophy of science. And one will discover that, with all his other interests, Mayr remained an ornithologist and naturalist throughout his life.

Some parts of the book are well outside of a chronological order, and particular discussions can be hard to find. For example, the account of Mayr's death and memorial service is found on pages 305–306, under the section on Health (chapter 9). A strictly chronological presentation is clearly not possible, but this problem could possibly have been alleviated with the inclusion of a timeline with cross-reference to appropriate pages in the book.

It is a real pleasure to recommend Jürgen Haffer's book on Ernst Mayr to all ornithologists and biologists as a thorough and clear biography of one of the outstanding biologists of the 20th century. Mayr was an ornithologist, to use his words, who ventured outside of this field and, I should add, most successfully.—Walter J. Bock, *Department of Biological Sciences, Columbia University, 1212 Amsterdam Avenue, Mail Box 2428, New York, New York 10027, USA. E-mail: wb4@columbia.edu*.

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