

Mach was prescient, for this age is in many ways now upon us.

TIM MEHIGAN

Stephen Jay Gould. *The Structure of Evolutionary Theory*. ix + 1,433 pp., illus., figs., bibl., index. Cambridge, Mass.: Harvard University Press, 2002. \$39.95 (cloth).

Stephen Jay Gould published this very large book in March 2002. Two months later, he was dead from cancer at the too-young age of sixty. Although, as it happens, *The Structure of Evolutionary Theory* was not Gould's final book (that was a collection of essays), it is obvious that this book was intended to be his masterwork, that on which his reputation as a scientist was to be judged. For Gould was not only the most gifted popular science writer of his generation, but also a man with pretensions to serious scholarship. Most particularly, with fellow paleontologist Niles Eldredge, he was the author of the claim that the fossil record is not, as generally interpreted, a smooth, gradual process explicable by conventional Darwinism—natural selection promoting adaptation—but rather a more jerky affair with stops and starts. Famously, he and Eldredge put forward their theory of "punctuated equilibrium"; and although the book under review contains much more (very, very much more), it is this theory that is the keystone to Gould's mammoth-sized production.

I will not presume to suggest that readers of this journal have no interest in contemporary science. Even if you are interested only tangentially in modern thinking and achievements, I urge you to get this work and (if not to read it straight through) to dip into it judiciously, for there is much of great worth here, and as a guide to the way that today's evolutionists think it is surely destined to be a classic. But for readers of *Isis* *qua* historians of science, there is a more pressing reason to pick up *The Structure of Evolutionary Theory*. Gould was a thinker who believed that evolution pervades everything: in order to understand the present in the realm of ideas, no less than in the realm of organisms, one must dig back into the past and try to find out how things were then and how things then led to things now. He did this before, most particularly and successfully in his important *Ontogeny and Phylogeny* (Belknap, 1977), where he explored how past scientists dealt with the issues of paleontology and embryology and how this throws light on the way that we should treat such

issues today. And he has done it again in this book.

In fact, all told, Gould offers us the equivalent of about five normal books, and of these the first two (about six hundred pages in total) are historical. Here we are offered a history—hardly a potted history—of evolutionary theory from the beginning to the present. There is much of value in these chapters—Gould was deeply read in the literature and obviously had pored over the original sources in many languages (from comments he made, it seems that he owned all of the original sources in the many languages). One rather regrets that this material was not prepared for independent publication, but one can see that this would not have suited Gould's purposes. He wanted to show that in opting for (what he would have called extreme) Darwinism, evolutionary biology had taken a wrong turn. With the history he presents establishing this fact, he himself is then ready to step into the breach with his own theory (of punctuated equilibrium) that would avoid the faults of the past and provide the answers of the future. In other words, like the works of other scientist/historians of evolutionary theory—notoriously Ernst Mayr—Gould's history was written to promote Gould's science and Gould's claim to an honored place in professional scientific history.

All history is of course written with an end in view. Otherwise it is just a collection of facts. But I have to say that Gould's aims do rather distort his material. His treatment of British adaptationists of the early part of the twentieth century (like R. A. Fisher) verges on the ludicrous, as their achievements are belittled and their motives impugned. (In Fisher's case, Gould's claims notwithstanding, there is certainly no conspiracy of silence about his eugenics, and indeed much effort has gone to show how Fisher's science survives despite his odd and somewhat repulsive views on race and class.) Gould's discussion is guided by his notorious metaphor that evolutionary thinking, in becoming more adaptationist, "hardened" (a process akin to the unfortunate degeneration of the arteries). Gould's facts are made to fit the metaphor, no matter what—rather like those unfortunate visitors who stopped off for the night at the B and B being run by Procrustes.

I liked Gould and admired him immensely. I was on the other side in many debates, and it never affected our relationship. I wish I could say nicer things about the history in *The Structure of Evolutionary Theory*. But the best way I can honor his memory is by being truthful. There

is much to commend this volume. I wish it were better than it is.

MICHAEL RUSE

Gerald Sullivan. *Margaret Mead, Gregory Bateson, and Highland Bali: Fieldwork Photographs of Bayung Gedé, 1936–1939.* x + 213 pp., frontis., illus., app., bibl., index. Chicago: University of Chicago Press, 1999. \$45, £31.50.

This book consists of two essays on the fieldwork photographs taken by Gregory Bateson during his 1930s Bali expeditions with his wife Margaret Mead. Gerald Sullivan's first essay is a textual commentary on photography and ethnography; the second, a photo-essay, is an original compilation of selected photographs from Mead's and Bateson's photo archives, some previously unpublished. In both essays Sullivan concerns himself with the "problem of ethnographic writing," by which he means the fieldworker's conscious goal of objectively recording and writing about a culture. This book is a welcome addition to recent works on the photograph as evidence, most of which grapple with this question. Is the photograph an analogue of reality or is it an analogue of culture-bound visual experience?

Margaret Mead and Gregory Bateson were not the first anthropologists to photograph in the field, but their Balinese still photos and cinematography may well be the most famous examples both because of the "methodological and analytic importance" they assigned to the photographs as a means "for taking notes" and as direct, albeit interpreted, evidence of human behavior. Indeed, the most interesting narrative line of Sullivan's text, which relies heavily on the two fieldworkers' unpublished writings, documents the shifting status and methodological significance of the photograph, from the team's pre-expedition plans to their publication of *Balinese Character* (New York Academy of Sciences, 1942). It is clear that Bateson's training in the natural sciences and his theoretical concerns with the fieldworker's point of view sensitized him to the phenomenological difficulties of field recording. Mead and Bateson had originally intended to document only a small number of photographic sequences. In fact, they shot more than twenty-five thousand photos and thousands of feet of movies. The two fieldworkers improvised their methodology and altered their objectives as they went along, finding, for example, that Bateson's photographing could not always be synchronized with Mead's note taking. While they originally conceptualized the

camera as a means to check their observational bias or their selectivity in isolating data to fit hypotheses, they came to understand Bateson's photo-documentation as a form of "note taking." As Sullivan points out, they saw almost none of what they had photographed until they returned to New York in 1939. Soon after viewing the images, they changed their publication plans: rather than a broad study of Balinese customs and behavior, they produced a book establishing the connections between Balinese child rearing and personality structure. At this point, Sullivan would argue, the photographs transformed from "notes" to "signs"—that is, they became part of the ethnographers' argument.

In his photo-essay Sullivan uses the Batesons' Balinese photo archive collection to survey the complex and overlapping social identities of the people of Bayung Gedé, along with the rich ceremonial life these villagers used to resolve and placate the spirit world. The camera, Sullivan argues, can record only what is visible, but much that is important to the Balinese—most notably their encounters with a sometimes-unpredictable spirit world—cannot be seen and therefore cannot be recorded on film. Mead, Bateson, and Sullivan have this in common: each ethnographer draws attention to what she or he wants viewers of photos to see. By juxtaposing his own textual commentary with archival photographs, Sullivan, himself an expert on Balinese culture, demonstrates how field photos originally conceptualized as equivalent to field notes can take on different meanings when reinterpreted into another ethnographer's texts. He notes that Mead and Bateson anticipated as much and that this understanding underlaid their effort to experiment with photography in the field.

VIRGINIA YANS-MCLAUGHLIN

Matthew J. Raphael. *Bill W. and Mr. Wilson: The Legend and Life of A.A.'s Cofounder.* xvi + 206 pp., index. Amherst: University of Massachusetts Press, 2000. \$24.95.

In 1935 two drunks, Dr. Robert Holbrook Smith and William Griffith Wilson, met at the Mayflower Hotel in Akron, Ohio, to talk and keep each other sober. The encounter between the two, who later became known as Dr. Bob and Bill W., marked the founding of Alcoholics Anonymous (A.A.). An A.A. member, using the pseudonym "Matthew J. Raphael," tells the story of their encounter in the opening of his book *Bill W. and Mr. Wilson: The Legend and Life of A.A.'s Cofounder* before beginning his exploration of Bill W. His goal is to "rehumanize the