California Monthly
PUBLISHED BY THE CALIFORNIA ALUMNI ASSOCIATION DECEMBER 1979/VOLUME 90, NUMBER 2

A Miller's Tale: the human side of science

By RUSSELL SCHOCH

"Oh, don't worry about Sulloway," they whispered in academic circles a few years ago. "He's gone off into psychology." What the whisperers meant was that Frank J. Sulloway, a Harvard-trained historian of science, was not to be considered an intellectual threat since he had taken a strange turn into the murky field of psychology. Does this sound a bit political, not to say petty? Right you are. But there is a full load of human emotion involved in the pursuit of science and in its historical analysis. And Frank Sulloway, despite his early detractors, is off to a brilliant career of charting its course.

In October Sulloway published his first book, the initial result of his turn to psychology: a massive, stunning intellectual biography of Sigmund Freud, titled *Freud, Biologist of the Mind: Beyond the Psychoanalytic Legend* (Basic Books, $20). The mere announcement of the book excited attention (*Time* magazine ran a story on the book in July, and *The New Republic* featured it in a cover story in August), and since publication it has generally been received as a watershed study, the most significant since Ernest Jones' monumental three-volume biography of Freud in the 1950s.

Sulloway's desire was to see Freud as he really was, not as his traditional biographers and followers have pictured him—as a lonely hero out of step with the intellectual currents of his age, as a pure psychologist who flourished only after abandoning his early training. But Freud not only began his career as a research biologist, argues Sulloway, he also continued to use and to rely upon biological theories throughout his long and prolific career. Unfortunately, some of those theories (the Lamarckian version of evolution and Ernst Haeckel's "bio-genetic law," for two) give Freud's psychological formulations a twisted base. Sulloway, for 600 pages, portrays Freud as a "biologist of the mind" and moves "beyond the psychoanalytic legend" by unraveling the myths Freud and his followers constructed and by showing the political functions of such myths. The book as a whole provides an intellectual portrait of Sigmund Freud never before available. It is an incredible performance, especially considering the fact that Frank Sulloway published it at the age of 32; the book exhibits an intellectual mastery far beyond its author's years.

"If that's true," Sulloway says in his office at Tolman Hall on the Berkeley campus, "it's because I have had uninterrupted time in which to think and write." Sulloway has been blessed with what are probably the three most prestigious fellowships in the country; he was a Junior Fellow at Harvard, a member of the Institute for Advanced Study at Princeton, and is now in his second and final year as a Research Fellow of the Miller Institute for Basic Research in Science at Cal.

Recalling his three years as a Junior Fellow at Harvard, which he used to research and write his book on Freud, Sulloway gives a vivid description of what "uninterrupted time" means to a scholar: "I sat in my office in Cambridge and watched the seasons go by. I saw the squirrels build their nests, the trees drop their leaves, the winters come and the summers go." Knowing that time was at

ANDREW PARTOS

PROLIFIC FELLOW: Frank Sulloway

his disposal, he could dig, and dig, and dig. And he did. He wound up reading 1,200 sources in the broad fields of 19th-century psychology, neurophysiology, and biology. His goal was to understand the assumptions on which Freud built. "I put my faith in doing the job right, and I let time take care of itself.

"I feel extremely fortunate. I have had the time, and I have used it. I work very hard. Long hours. Weekends. I don't take any time off. But I *love* working. It's fun! Its really very exciting to do this sort of thing," he says as he gestures around his cluttered office, the 24 volumes of Freud's *Standard Edition* crowding the bookshelves, box loads of Sulloway's own newly-minted book heaped on the floor, and other books, journals, and papers scattered everywhere else.

Sulloway's current scholarly concern is Charles Darwin, an old friend ("my first intellectual love"). When he was a junior at Harvard, Sulloway organized and raised funds for what was called the Harvard-Darwin Expedition, an ambitious retracing of Darwin's famous voyage aboard H.M.S. *Beagle*. The trip produced six documentary films and provided young Sulloway with rich material for his senior thesis at Harvard.

"I've been interested in Darwin for 12 years," Sulloway says, "interested in very specific questions, the most important of which are how, when, and why did he become an evolutionist?" The book Sulloway is now writing, on Darwin, hovers around those questions and on what their answers provide for an understanding of Darwin as a creative scientist and as a human being—"the psychological side of his thought processes."

Why are such questions important? "The reason the question of Darwin's conversion to evolution has been such a fascinating one to all of Darwin's biographers," answers Sulloway, "is that if he hadn't converted . . . well, that's the keystone of his whole career. Without the conversion, there's no Darwin."

Having retraced the *Beagle* voyage as an undergraduate, having seen the difficulties Darwin had in understanding the implications of what he found in the Galapagos Archipelago, and the numerous mistakes he made in classifying his material, Sulloway came to the conclusion that "it was not the evidence" that converted him. "But that still left me with the question, 'Why did Darwin convert?'"

It was this question that provoked Sulloway to turn to Freud and psychology for an answer. "I wanted to read Freud in order to understand some puzzling things about Darwin and Darwin scholarship," he says. The result of this swerve into Freud was a seven-year detour from Darwin, a dissertation for the Ph.D. in the history of science at Harvard, and the publication of his first book.

The traditional answer to why Darwin became an evolutionist is: "the evidence. The evidence convinced him." What Sulloway will argue in his study of Darwin (he hopes to complete the manuscript by next June) is: "Darwin! *Darwin* made the difference."

Sulloway explains: "Like his more eminent colleagues, Darwin was a Creationist—believing that all species were immutable, fixed since the creation. And for a scientist to entertain the notion of evolution in the 1830s would be comparable to—indeed, far worse than—a scientist upholding a theory like parapsychology today. But once you begin to pay attention to *how* Darwin's mind worked, you begin to see the remarkable flexibility of the man, his ability not only to form hypotheses but to give them up. Once you believe in a theory, the hard thing is to give it up, to say 'I was wrong,' and to accept—or even entertain—a new theory. That's something Darwin was good at.

"And that's what science is all about. Science, good science, is more about giving up theories than it is about forming theories and sticking to them."

In his study of Freud, and now Darwin, it is the psychology of scientific creativity that unifies Sulloway's intellectual endeavors. "That has to be at the heart of what goes on in intellectual life," he says. "How does the mind work? How does it transcend what we know, and come up with what we didn't know? To understand this creativity of the mind is very exciting. It's a subject surrounded by myths, legends, and misunderstandings—because it's so important. I have tried to penetrate some of those barriers.

"I don't think there's anything I will discover that isn't applicable in some ways to all creative achievement. Perhaps it could be duplicated in studies of artists, poets, and musicians. But they don't leave notes behind, and scientists do. Science just happens to offer certain convenient ways of approaching the problem."

So Sulloway spends his days in Tolman Hall filling up, in his neat hand, a notebook of his work-in-progress on Charles Darwin. He turns aside questions about how he spends his day ("I come to my office and work—that's not very interesting"), but he leans forward to describe the virtues of his Research Fellowship at the Miller Institute. And, though this might seem strange when speaking these days of the Berkeley campus, it is "fellowship" that Sulloway stresses. "One of the real advantages here is that a Miller Fellow is affiliated with an academic department, which is not true of the fellowships I had at Harvard or Princeton. You become part of a department upon your arrival at Berkeley, and that gives you an instant sense of intellectual community." Sulloway is affiliated with ("sponsored by") Cal's Department of Psychology. "It's been a real nice thing to have," he says.

Sulloway finds a similar advantage in the weekly luncheons attended by Miller Professors and Fellows at the Faculty Club. "They're not only a lot of fun, they give you another sense of belonging to a community," he says. "It really helps you in doing your work to find that you are a part of something." The opposite of this was experienced by Sulloway at Princeton's Institute for Advanced Study: "I felt at times like I was in a monastery. I know people there who went through the whole year without meeting anybody."

ANDREW PARTOS

GOOD FELLOWSHIP: Miller Professors, Fellows, and staff meet once a week for luncheon at the Faculty Club.

Sulloway also appreciates the length of the Miller appointment—two years, twice as long as most post-doctoral fellowships. "Two years really allows you to get your roots in the community and to get a lot of work done in a continuous way," he says. Sulloway was able to finish up the revisions and proofreading of his Freud book mid-way through his Miller Fellowship and then turn, the next day, to his Darwin manuscript. "I didn't miss a beat," he says.

Nor has Sulloway missed a beat since. Already underway is his third major project—a study of the effects of birth order on scientific temperament ("I've got dynamite data," he says)—and he will take that up full time once the Darwin book is complete. His goal: to publish three major studies before he settles down, still in his early 30s, to a teaching career. All three studies seek to provide insights into how the mind of a scientist works. One study has been published to high acclaim, the second is nearing conclusion, the third waits in the wings. It looks like Frank Sulloway's turn to psychology was a good move.□