



China Voyager: Gist Gee's Life in Science

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Isis, Vol. 90, No. 4. (Dec., 1999), pp. 845-846.

Stable URL:

<http://links.jstor.org/sici?sici=0021-1753%28199912%2990%3A4%3C845%3ACVGGLI%3E2.0.CO%3B2-W>

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cles to overcome—for instance, the belief that proteins were the carriers of genetic information and then, once that role was ascribed to DNA, the belief that the latter had to be an extremely stable molecule to fulfill its functions properly. Both presuppositions made the idea of DNA repair unthinkable. To these conceptual obstacles, Friedberg adds a social one, namely, the status of radiobiology, the field within which the initial observations concerning DNA repair mechanisms emerged, which was almost universally held in disdain by practitioners of the booming discipline of molecular biology.

The various chapters of the book chronicle the succession of experiments through which an increasing number of DNA repair mechanisms (enzymatic photoreactivation, excision repair, and so on, up to so-called SOS repair) were discovered and through which the reality, importance, and breadth of the phenomenon were simultaneously established. Recent developments, such as the selection, by the journal *Science*, of the collective cellular DNA repair machinery as the 1994 “Molecule of the Year” and the recognition of a connection between various pathologies (namely colon cancer) and DNA repair mechanisms, signal the successful assimilation of the field into contemporary biomedical research.

Friedberg is himself a distinguished scientist who has contributed to the advancement of the study of DNA repair. Thanks to his acquaintance with the principal players, he has been able to elicit a wealth of information through interviews and personal documents, on which the book is largely based (the only professional historical source consistently cited is Horace Judson’s *Eighth Day of Creation*). The book’s avowed target audiences are “the established community of DNA ‘repairologists’” and students about to enter that field (p. x), and Friedberg’s explicit aim is “to sort out the relative areas of priority and to identify the principal players” (p. ix), an endeavor that is reflected in the space devoted to priority disputes. Friedberg does (a sign of the times?) occasionally interrupt the chronology of experimental events to look at broader factors that have impinged on the field, such as the cold war or gender. But the reason his book should be of interest to historians of contemporary biomedical research lies not in these occasional gestures, or in the discussion of priority disputes, but in the fact that it brings to the fore a generally neglected aspect of contemporary biology. As Friedberg’s story progresses, molecular biology comes to occupy an increasingly prominent role, but Friedberg also provides a detailed descrip-

tion of work pursued under the heading of radiobiology, including a discussion of the experimental systems and tools (e.g., survival curves) constitutive of that field. Here one can find material for an alternative history of modern biological research, one that would move away from an exclusive focus on molecular biology, strictly defined, and would at the same time be attentive to the material culture and spaces of representation of competing experimental systems—a history comparable to Hans-Jörg Rheinberger’s masterly study of the field of protein synthesis, *Toward a History of Epistemic Things: Synthesizing Proteins in the Test Tube* (Stanford, 1997). Yes, a historically sophisticated analysis of the DNA repair field does still remain to be written, but Friedberg’s book constitutes a rich resource and a fine empirical starting point for future historians.

ALBERTO CAMBROSIO

William J. Haas. *China Voyager: Gist Gee’s Life in Science*. (An East Gate Book.) xiv + 345 pp., illus., fig., bibl., index. Armonk, N.Y./London: M. E. Sharpe, 1996. \$65 (cloth); \$24.95 (paper).

During the first three decades of the twentieth century, Gist Gee was a prominent American missionary who spent most of his career as a teacher and promoter of science in China. In *China Voyager*, William J. Haas presents a detailed account of the life and career of Gee as representative of American involvement in Chinese science, education, and medicine during these turbulent times in Chinese history. Born in 1876 to a prominent Southern Methodist family in Union, South Carolina, Gee went to Wofford College in nearby Spartanburg, where he developed strong interests in the Christian religion and science education. In 1899 he became a professor of natural sciences at Columbia Female College at Columbia, South Carolina, where his future wife, Clara Belle, was a student. He avidly pursued additional training in chemistry and natural history, enrolling in summer schools at both Harvard University and the University of Chicago.

In 1901, at the height of American missionary enthusiasm for China, the Southern Methodists established Dongwu University in the scenic Chinese city of Suzhou. Here Gee was selected to act as both a professor of natural sciences and general administrator of Dongwu’s science curriculum. Once on the job Gee spent most of his time building the university’s nascent science program and very little spreading the word of

God. In fact, Haas does not deal directly with Gee's religious life or how it affected his relations and actions in China. Rather, using Gee's experiences, he provides a history of scientific development in China during this period.

After spending almost twenty years (1901–1920) teaching science at Dongwu, Gee was picked to be the Rockefeller Foundation's advisor on premedical education in China, a position that allowed him to travel extensively among Chinese scientific and educational institutions in the 1920s and early 1930s. Gee's observations during these trips give us a broad perspective on the rapid growth of Chinese higher education and the role of the Rockefeller Foundation in China during this expansion. Gee, however, was always unsure of his position within the Rockefeller Foundation, which he found capricious and politicized, rarely understanding of science or its situation in China. He was phased out of the foundation in 1932. Gee then worked as a fundraiser in the United States for another Chinese missionary school, Yanjing University in Beijing. After losing that job three years later, Gee made his way back to South Carolina, where he became a professor of biology at Lander College in Greenwood. Yearning vainly to return to China, Gee died in 1937 at the age of sixty-one with his second wife, Christine, at his bedside.

Based on extensive archival research and interviews, this book is valuable for its description of Gee's experiences as a second-generation missionary scientist in China. Unlike many in the first generation, such as John Fryer, Gee did not have a significant grasp of the Chinese language, but he trained a number of Chinese scientists. Although Gee never developed much of a reputation as a scientist—his main scientific work focused on writing science textbooks and conducting studies of birds in southern China—he did interact, both personally and institutionally, with many of the more significant players in Chinese science of the day. Haas's book, however, could have benefited from stricter editing, as often-excessive background information and frequent digressions disrupt the chronological narrative and confuse the reader. A more explicit analysis of the ways in which Gee's experiences shed light on major issues in the history of science in modern China would also have helped improve this useful if dense biography.

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JEDIDIAH KRONCKE

Fritz Redlich. *Hitler: Diagnosis of a Destructive Prophet.* xviii + 448 pp., illus., apps., in-

dex. New York/Oxford: Oxford University Press, 1999. \$35.

Generations of biographers have speculated about the physical or mental pathologies that might have transformed Adolf Hitler from an unremarkable artist *manqué* into the monster of the century. Now we have this voluminous treatise, which gathers all the available evidence about Hitler's health and proffers its own diagnosis of "a destructive prophet." Its author, Fritz Redlich, is a physician and a psychiatrist who was born in Vienna in 1910 and was forced to leave Austria in the 1930s when it was discovered that his family tree included a Jewish ancestor. It is clear that he has spent substantial portions of his subsequent life in the United States trying to figure out just what makes human beings seek the destruction of other humans. This book is the result of that quest.

The book is divided into two parts, the first presenting a detailed account of Hitler's life and career, the second interpreting that life and career in the light of medicine and psychiatry. Starting with Hitler's childhood and his family history, Redlich provides an exhaustive summary of the coming of the Nazis, World War II, and the eventual downfall of the Third Reich. Along the way Redlich touches on every noteworthy rumor and speculation about Hitler's health (or lack thereof), ranging from the claim that he had only one testicle to the belief that he killed the Jews because a Jewish physician had been responsible for the death of his beloved mother. All his major illnesses and treatments are tabulated in detailed appendixes, and Redlich devotes much attention to Theodor Morell, the Führer's trusted personal physician (the demonstration of Morell's lack of professional expertise is particularly interesting). Despite such novelties, however, most of this section encapsulates easily accessible information, and one wonders whether it really needed to be quite so long and exhaustive. (It is remarkable that in these days of parsimonious publishing Oxford University Press did not insist on drastic cuts to these pages!)

In the second section of the book Redlich offers his own clinical interpretation of Hitler's life and convictions. Here, alas, the evidence is often too meager to permit any firm diagnoses. Although it is almost certain that Hitler suffered from Parkinsonism in his later years and although there is some evidence for amphetamine abuse and a genital deformity, a thorough examination of the available facts leads Redlich to