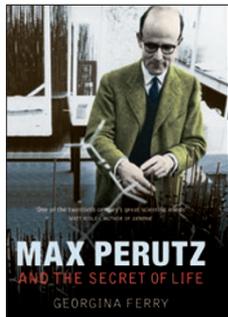


A chemical physicist in biology



Max Perutz and the Secret of Life

Georgina Ferry

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Reviewed by Judith Goodstein

In 1962, when Max Perutz won the Nobel Prize in Chemistry for determining the structure of hemoglobin—the protein that carries oxygen from the lungs to the tissues and colors blood cells red—he was scarcely a household name, although he already ranked as one of the leading scientists of the twentieth century. The irony in this situation was not lost on Perutz, who lamented, “many call me a famous scientist, but few know what I am supposed to be famous for.” Perutz cared about posterity and understood that few scientists, even Nobel laureates, merit more than a footnote in the history books.

Although Perutz thought about writing his autobiography, he never did, claiming that he found the adventures and drama of other scientists’ lives more compelling than his own. Nevertheless, in 2002, shortly before he died at the age of 88, Perutz summoned the accomplished British author Georgina Ferry to his bedside and asked her to write his life story, which she has done with verve, intelligence and imagination.

A biographer, it seems to me, walks a fine line: he or she needs to be truthful, enthusiastic and selective without suppressing, inventing or distorting the individual whose life is under scrutiny. He or she must allow his or her readers to feel, as well as to understand, the passions, foibles and idiosyncrasies that made his or her subject a person while dealing with family members and intimates who might object to a biography on the grounds that it’s nobody’s business. On all counts, Ferry’s beautifully written book meets and passes the test with flying colors.

Max Perutz and the Secret of Life is a definitive biography of one of the handful of men and women who helped to lay the foundations of molecular biology and inaugurate the brave new world we’ve only begun to glimpse.

From start to finish, Ferry immerses us in her subject’s life and times, beginning with a vivid description of Perutz’s childhood in Vienna. Born into a cultured, wealthy and assimilated Jewish family of textile merchants, Perutz was baptized as a Catholic at age six to protect him from any lingering risk of discrimination. The family

intended him for law and the family business, but he had other ideas. In 1932, he entered the University of Vienna. In 1936, still several years away from a doctorate, he fled the growing hordes of Vienna’s Nazi thugs for the safety of England and J.D. Bernal’s crystallographic lab at the University of Cambridge. It would be his scientific home for the rest of his life.

Perutz recalled asking Bernal how he could solve the secret of life, and Bernal replied, “the secret of life lies in the structure of proteins, and X-ray crystallography is the only way to solve it.” Perutz spent 22 years developing, testing and refining the X-ray methods used to map the structural changes in the giant, complicated molecules that form the catalysts of living cells. Ferry’s detailed story of how Perutz arrived at the solution of the hemoglobin protein structure does not neglect the many dead ends and false leads he encountered during his research.

Along the way, we learn a great deal about the social pecking order among academics at Cambridge; Perutz’s internment at the beginning of World War II as an enemy alien in various poorly maintained camps in England and Canada; his part in a truly bizarre top-secret wartime project, code-named Habbakuk, to build huge aircraft carriers made of ice; his passion and skill as a rock climber and skier; and his role in 1947 in founding a research unit at Cambridge University that became the Laboratory of Molecular Biology. Many of the scientific luminaries who worked there figure prominently in the book, including James Watson and Francis Crick, who discovered the double-helix structure of DNA while working in Perutz’s research unit at Cambridge.

In his personal life, Perutz seems to have been something of a hypochondriac, often complaining about what he called his “tummy troubles,” but his friends were happy to indulge his many eccentricities, which they called his “funny little ways.” Plagued for many years by a bad back, which prevented him from sitting comfortably, he was known to introduce a speaker and then proceed to lie at full length at the front of the room while the unnerved lecturer tried to maintain the audience’s attention. When Perutz traveled abroad, he thoughtfully sent his hosts an advance list of acceptable foods and restaurant taboos (no smoke and no candles) and confined his international trips mainly to Western Europe and North America, where he felt he could trust the food and the hygiene.

Characterizing himself as a “chemist who worked in a department of physics on a biological problem,” Perutz championed chemist Linus Pauling’s 1949 discovery that the hereditary blood disorder sickle-cell anemia is a molecular disease and began to work to find a treatment. Ferry credits Perutz with helping “to usher in the era of ‘molecular pathology’—the study of the origins and mechanism of disease at the level of DNA and proteins.” He was also a terrific laboratory director, gentle and humane, and blessed with a wry wit and a keen sense of humor.

Unlike many bench scientists, he enjoyed writing and, in his later years, assumed the role of communicating the results of science to the lay public. In telling the story of this admirable man and exceptional scientist, Ferry has succeeded in making her subject live again for the reader.

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