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Rosalind Franklin and DNA (Book Review)

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Rosalind Franklin and DNA by Anne Sayre, W. W. Norton & Co., 1975, 221 pages, \$6.95. Reviewed by Delmar Vander Zee, Associate Professor of Biology.

The molecular structure of DNA, the heredity-encoding molecule, was discovered in 1953. But the record crediting the discovery to the proper scientists has been somewhat distorted. Anne Sayre wrote this book as a defense, an attempt to set the record straight on behalf of her friend Rosalind Franklin, a European scientist who had worked on DNA in the early 1950's before she died of cancer in 1958 at age 37. This is not the first attempt to straighten the record, but probably the most definitive to this time.

The record that Sayre attempts to straighten was written in 1968 by J. D. Watson in *The Double Helix* (Signet Books). (Before one can appreciate Sayre's book, one should read Watson's.) *The Double Helix* is a kind of memoir and a sometimes gossipy account of how the molecular structure of DNA was discovered. It is not a technical book but, rather, describes how some science was done. Watson made a point of caricaturing Rosalind Franklin as "Rosy . . . an unattractive, dowdy, rigid, aggressive, overbearing, steely, unfeminine bluestocking, the female grotesque we have all been taught either to fear or to despise" (Sayre p. 19). Watson did not have a very high regard for women in science, and after R. Franklin died, he "stomped on her grave" with his distorted account of her in his book. F. H. Crick, co-discoverer of the DNA structure, called Watson's book a novel!

The reason for this effort to vindicate a friend and fellow scientist was that Rosalind Franklin had determined on her own by 1951 many important facts of DNA structure. DNA was helical; it contained two or more nucleotide strands with the phosphates on the outside. The technical data from R. Franklin's X-ray crystallography got into Watson's hands surreptitiously and thereby enabled Watson and Crick to design a molecular model and win the race in publishing the discovery without giving proper credit (*Nature*, April 25, 1953). For this discovery, J. D. Watson, F. H. Crick, and M. Wilkins received the Nobel Prize in 1962.

Watson not only maligned the character of a very competent scientist but in stereotyping

her may have been trying to excuse the "theft" of her data—without which Watson and Crick could not have made their discovery as early as they did.

To straighten this record, Anne Sayre does a masterful job. Her book goes to great lengths to describe Rosalind Franklin's personal and family life and her character. She apparently was not what Watson suggested! She was very diligent and persistent in pursuit of the truth. She was also a very competent scientist, beginning with the crystallography of carbon compounds, briefly working with DNA, and then working on virus structure. Rosalind Franklin published several papers per year until her death. Sayre's book is well documented; she has researched many sources, interviewed many people. She documents especially well the details of the DNA work. Twenty-one pages at the end of the book are references and notes to the main text.

Sayre's book is important for many reasons. It gives due credit (posthumously) to an important scientist. It points out that scientists are human and subject to err, shattering the modern TV image of the cold, competent, and completely honest scientist. It also points out an important ethic that must be maintained in the sciences, that is, openness and honesty. The breaching of this ethic came to light no doubt because of the fame of the DNA discovery and in part because of the diligence of those who wanted to set the record straight.

Sayre's book (and Watson's) should provide interesting and informative reading to people in many fields.

The Battle for the Bible, by Harold Lindsell, Zondervan Publishing House, Grand Rapids, Michigan, 1976, 218 pages, \$6.95. Reviewed by Wayne Kobes, Instructor in Theology.

Dr. Harold Lindsell is an evangelical Christian with a deep, pressing concern. His concern has to do with changing views of an infallible and inerrant Scripture within the evangelical community. Dr. Lindsell writes:

Fundamentalists and evangelicals (both of whom have been traditionally committed to an infallible or inerrant Scripture) have long been