Review of Publications/Critiques d'Ouvrages

Rings: Discoveries from Galileo to Voyager by James Elliot and Richard Kerr.
Pages 209; 15.5 cm × 23.5 cm. MIT Press. 1984. Price U.S. $17.50 (hardcover).

If you are looking for a standard textbook-like summary of planetary rings, Rings: Discoveries from Galileo to Voyager won't fit your bill. This is not to say that Rings wouldn't make a good text—for a course on methods of scientific discovery. It also is interesting reading for specialists and laymen alike. The goal of Rings is to convey how science marches forward, as seen from the viewpoint of those involved in the research, and Rings succeeds admirably at this task. The book is sufficiently well written that anyone from a high-school student interested in science to a researcher who spends most of his or her time analyzing planetary rings can enjoy it. I especially recommend it to students thinking of pursuing a career in science, and individuals curious as to how science "works".

In 1977, when Jim Elliot and co-workers set out to observe the occultation of an unnamed star by the atmosphere of Uranus, Saturn was the only planet known to possess rings. The observation by Elliot et al. that Uranus is encircled by several narrow rings initiated a period in which our knowledge and understanding of planetary rings has expanded manifold. The Voyager spacecrafts discovered a very tenuous ring system around Jupiter in 1979. The classical picture of Saturn having three broad, uniform rings was altered immensely by the data sent back by the Pioneer and Voyager spacecrafts, which encountered Saturn between 1979 and 1981. Theories were developed to explain ring configurations unimagined only a few years before. Elliot and Kerr document this rapid expansion of our knowledge of planetary rings.

Rings begins with Elliot's first person account of the discovery of what turned out to be rings around Uranus. The partial transcript of the flight on which the observations were made sets the tone for the book. It displays how science marches: sometimes forward and sometimes backwards, in an effort to seek out the "truth". The reader gets a sense of what it feels like to be in the midst of a scientific discovery.

The second chapter is a more or less standard history of planetary ring studies from 1610, when Galileo first observed the rings of Saturn (but believed them to be giant moons), until the 1970s. The excitement of the first person account in the first chapter is gone, but after Elliot's discussion of the discovery of the Uranian rings, the reader can imagine the excitement in discovering the properties of Saturn's.