

The Story of Light

Ben Bova

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The author's first book about light, *The Beauty of Light*, published in 1988,

won the ALA Best Science Book award. Since then, Bova explains, "so much more has been learned about everything" that he was compelled to "return to the subject of light and begin anew."

The new book is an extremely broad survey examining light from myriad angles. Bova begins by pointing out how metaphors about light have crept into the fabric of our language: "A bright person gets ahead in the world, while a dull one has a more difficult time."

From there, Bova touches on light's role in religion, and in the evolution of life on the planet. He explains how light enters the human eye, causing a chemical change that sends pulses of electrical energy to the brain; the brain then interprets and collates these pulses into one cohesive image.

The book is divided into several sections, each of which may be read independently. One section is devoted to the discovery of light waves: it describes Galileo's experiment with two men on distant hilltops using shielded lanterns and a clock in an attempt to measure the speed of light; and Newton's turning one of the rooms of his mother's house into a camera obscura and explaining the phenomenon of refraction, the bending of light as it travels through different media.

Another section is devoted entirely to lasers, an acronym for Light Amplified by Stimulated Emission of Radiation. Laser light is more intense than the light of the sun; it's monochromatic; and it travels great distances without dissipating. Bova describes how lasers are used in fiber-optic communication systems, and in recording light waves to create three-dimensional images or holograms.

If anything, the book suffers from being too broad in scope. Bova attempts to cover so much that many subjects are treated cursorily. Entire topics of art and light, light and literature, and light and human psychology are glossed over in just a few paragraphs. The book, however, never fails to be interesting; it is filled with quirky anecdotes, and the author does a fine job of explaining science to the general-interest reader.

JILL BLUE LIN (January / February 2002)

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