David Brewster Biography

David Brewster

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Biography

Born in Scotland in 1781, David Brewster expected to become a minister. He entered Edinburgh University at age twelve with this goal, but was diverted by his growing interest in science, especially in the building of scientific instruments. Before he was twenty he had already begun experiments testing contemporary theories of light. Although he completed his theological studies in 1804, he never was ordained. Instead, he devoted his life to the advancement of science, especially optics.

In the early nineteenth century, scientists were busily trying to prove or disprove the newly revived theory that light was actually a wave rather than a particle. The best evidence to support this new hypothesis was the fact that light, when passed through a piece of Iceland spar, was split into two rays bearing different properties. Brewster took this thinking even further, showing that the two new rays were completely polarized and turned at right angles to each other. This discovery was dubbed Brewster's Law, and it earned him the Rumford Medal in 1819, the first of his many scientific awards.

Brewster also extended Jean-Baptiste Biot 's studies of the optical properties of certain crystals which had the ability to bend and polarize light. Some interesting results of Brewster's research were the kaleidoscope (a direct descendant of his polarity experiments) and the stereoscope. Brewster was also instrumental in the adoption of Augustin-Jean Fresnel's new lens system in British lighthouses. He helped found the British Association for the Advancement of Science in 1821 and was knighted in 1862, at the age of fifty one.