



Light and Life

By Michael Gross

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Light and Life By Michael Gross

Light, more than any other physical phenomenon, lies at the heart of almost every aspect of life. To give just one example: photosynthesis, which converts sunlight into usable energy, creates the calories that sustain you, the oxygen you breathe, even the ozone layer that protects you from dangerous radiation. Biochemist Michael Gross takes us on a fascinating, far reaching exploration of light and life, ranging from the big bang to the impact of a single photon on the human retina. *Light and Life* ranges from the formation of the solar system and the conditions that allowed life to arise on earth, to the ever-deepening interaction between light and life in all its myriad forms. In a breezy and informative style, Gross explains the "oxygen revolution," when photosynthesis changed not only life but the planet itself (by pumping oxygen into the atmosphere and creating the ozone layer, among other things). He describes the workings of chloroplasts, and the most bizarre aspect of light's relationship to life: bioluminescence, the generation of light by plants and animals (from the flashlight fish, which hunts with its own high-beams, to a photoplankton that lights up to attract predators of its predators). Gross is at his most illuminating as he explores the relationship of the human body to light, from the structure of the eye, to vitamin D synthesis, to circadian rhythms. He concludes with a thoughtful rumination on the historically central place of the sun and light in human cultures.

Packed with eye-catching illustrations and boxed features on important scientific topics, *Light and Life* is science writing at its brightest.

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Editorial Review

Review

"Excellent."--John D. Barrow

About the Author

Michael Gross is Science Writer in Residence at Birkbeck College, London, and a working researcher in protein biochemistry. He is the author of *Life on the Edge*, and his articles on science regularly appear in *The Independent* of London.

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