

# The Sun Rules the Planet

by Manuel K. Oliver

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## **The Sun Kings: The Unexpected Tragedy of Richard Carrington and the Tale of How Modern Astronomy Began**

by Stuart Clark

Princeton, N.J.: Princeton University Press, 2007

Hardcover, 211 pp., \$24.95

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What a delight! This is an enthralling account of the personal lives of the scientists who first demonstrated the Sun's dominant influence over Earthly affairs and laid the foundation for modern astronomy and astrophysics.

And what timing! Just when the attention of the world is focussed on global climate changes, Stuart Clark's book reminds us that the Sun is King of the Solar System, controlling events on planet Earth in ways that extend far beyond the daily benefits of visible sunlight, and its reflection at night from the Moon and other objects in the Solar System.

Stuart's book is rich in personal details of the pioneers who discovered that planet Earth remains closely linked with eruptions on the Sun, billions of years after this star gave birth to the Earth and its sister planets. This is a fast-moving, accurate, and fascinating story of diverse personalities, their families, ambitions, hopes, and struggles, their passion for knowledge, for awards, positions and recognition, and the inevitable roles that pride, greed, jealousy, and resentments played in deciding the tragedies, fame and fortune of the founders of modern astronomy.

The story covers a 209-year period, from William Herschel's lectures on Dec. 18, 1795, about the strange, planet-like features that he had observed on the sur-

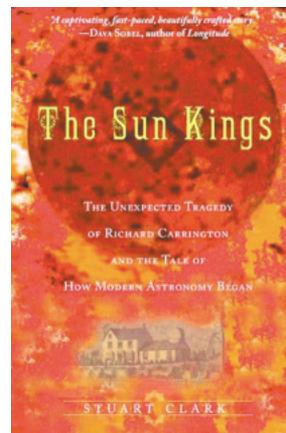
face of the Sun, until the eruption of a neutron star on Dec. 27, 2004 blasted Earth and the rest of the solar system with deadly, high-energy radiation from the supposed dead heart of a distant star.

It is probably no coincidence that Clark uses historical events closely related to a current controversy about the Sun as bookends for this gripping story. Clark is a master storyteller and, as the author of several astronomy books and the former editor of *Astronomy Now*, he knows how very little the scientific community really understands about the erratic star that controls most events on planet Earth.

The story is built around the seemingly good fortune of a 33-year-old astronomer, Richard Carrington, who was following a highly disciplined routine of observing and recording events on the Sun, when, at 11:18 AM on Thursday morning, Sept. 1, 1859, Carrington witnessed blinding white light from a monstrous solar eruption. At about the same time, the Kew Observatory had the good fortune to record a sudden recoil of the Earth's magnetic field, a finding that suggested an almost instantaneous link across the 93 million miles of void that separates Earth from the Sun.

(The personal tragedy that befell Carrington, which is mentioned in the title, I leave to readers of the book to learn.)

The Kew Observatory recorded an even larger disturbance in Earth's magnetic field the next day, when the full force of the solar storm reached the third planet after travelling about 5 million miles per hour from the Sun, and engulfed the Earth in a blood-red aurora, wreaking havoc worldwide as "tele-



graph systems crashed, machines burst into flames, and electric shocks rendered operators unconscious."

The story unfolds, not in simple chronological order, but with an event that is still fresh in the memory of many readers: A series of violent solar eruptions that occurred 44 years later near Halloween of 2003, soon after the *Journal of Fusion Energy* had published a paper on "Superfluidity in the solar interior: Implications for solar eruptions and climate."

The most obvious theme of *The Sun Kings* is this: Earth is intimately connected to the rest of the universe and our destiny is closely tied to that of the violent and unpredictable star that illuminates our tiny corner of the cosmos and sustains life itself.

I do not know Stuart Clark personally, but I gladly give *The Sun Kings* my highest recommendation, not only for its entertainment value, but also for the insight it provides into the foundations of modern astronomy and the fragility of our very lives on planet Earth.

*Dr. Manuel is Emeritus Professor of Nuclear Chemistry, University of Missouri, Rolla, Mo.*

# The Joy of Fighting Dogma with Ideas

by Gregory Murphy

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## **The Virtue of Heresy: (Confessions of a Dissident Astronomer)**

Hilton Ratcliffe

Central Milton Keynes: AuthorHouse UK Ltd., 2007

Paperback, 409 pp., \$22.95

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Hilton Ratcliffe's book is a breath of fresh air in the stale confines of popular science. His book is full of ideas, which he does not ask you to believe on face value, but to read, study and, discuss. The current trend in sci-

ence-based books, in contrast, is to focus on certain "facts," as opposed to ideas. The only thing that such books can be used for is as a preparatory text for competing on Jeopardy, or for trying to sound smart at a cocktail party.