



Mars-scape

On the cover — in the early morning on Mars, water-ice clouds form in the small canyons of Noctis Labyrinthus, a high plateau. Viking Orbiter 1 captured this idyllic Martian landscape in July 1976; the scientists at JPL processed the image and enhanced the color. It's one of 140 images in Baxter Art Gallery's current (and final) exhibition "25 Years of Space Photography: Jet Propulsion Laboratory, California Institute of Technology."

All of the images were transmitted from NASA's unmanned space exploration missions and processed for NASA by JPL, creating pictures of "extraordinary scientific value," according to JPL director Lew Allen. They are also images of extraordinary beauty and seem entirely appropriate on the walls of an art gallery.

The quarter-century JPL retrospective will run at Baxter through July 31. Several selections from the show appear on pages 15-19.

Counting Chromosomes

"Human Chromosomes — Down's Disorder and the Binder's Mistakes," which begins on page 8, was drawn from Dan Kevles's new book, *In the Name of Eugenics: Genetics and the Uses of Human Heredity*. Much of the book appeared in three installments in *The New Yorker* last fall as "Annals of Eugenics: A Secular Faith." Most of the article printed here, however, did not; *E&S* is pleased to be able to

offer what *The New Yorker* chose to leave out.



Kevles has published numerous articles on the history of science, and his previous book, *The Physicists: The History of a Scientific Community in Modern America*, won the National Historical Society Prize in 1979 and was nominated for an American Book Award. Professor of history since 1978, Kevles joined the Caltech faculty in 1964, the same year he received his PhD in history from Princeton. His BA is also from Princeton (1960) — in physics.

Spurning Embers

The football field's bleachers were filled one sweltering Sunday in April with people watching a demonstration of firewalking. Sponsored by the Southern California Skeptics, a group that draws many of its members from the Caltech community, the demonstration debunked the claim that special mental or mystical preparation is required for this feat. The Skeptics society is profiled in "Ghostbusters!" beginning on page 2, written by an *E&S* staffer. The writer himself did not walk on the coals. When asked why, he

replies, "What — and compromise my journalistic objectivity?"

Simon Says

Barry Simon came to Caltech from the Princeton faculty in 1980, first as a Sherman Fairchild Distinguished Visiting Scholar and the following year as professor. Last fall he was named the IBM Professor of Mathematics and Theoretical Physics. His PhD is also from Princeton (1970) and he received his BA from Harvard in 1966.



Simon has published nearly 200 papers and 9 books in areas ranging from pure mathematics to theoretical physics to physical concepts. His theorems have contributed significantly to the recent revolution in theoretical chemistry and theoretical atomic and molecular physics. In 1981 he received the medal of the International Academy of Atomic and Molecular Science.

He's regarded as an expert on Schrödinger operators, which have relevance to both mathematics and physics, and which he heroically offered to attempt to explain to *E&S* readers. His article, "The Theory of Schrödinger Operators: What's It All About?" begins on page 20.

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