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The Astronomical Visions of Lucien Rudaux

RON MILLER, *Fredericksburg, Virginia*

DECADES before any missions to the planets, when scientists could only dream of space flight, one French astronomer was off on his own voyages of imagination. He is largely unknown today, his name not being connected with any important discoveries. But because of his stunning paintings of other worlds, Lucien Rudaux holds a special place in popular astronomy. Generally considered the progenitor of space art, he produced vistas of such accuracy that they stand up well against images from today's planetary probes.

Rudaux, who worked in the 1920's and '30's, represented an extremely rare combination of scientist and artist. Realizing the need for astronomers to communicate with the general public, he used his writing and painting talents to produce scores of books and magazine articles. Like Flammarion and Proctor before him, and Carl Sagan and Patrick Moore today, Rudaux brought his audience closer to the mysterious sights he saw in his telescope.

Rudaux started his career not as an astronomer but as a professional illustrator. Still, he exhibited a strong interest in astronomy even while quite young. In 1892, at the age of 18, he joined the French astronomical society. An active member, he was among the first ever to observe a solar flare in white light. Rudaux published numerous reports of his observations in the society's bulletin, *l'Astronomie*, between 1892 and 1914.

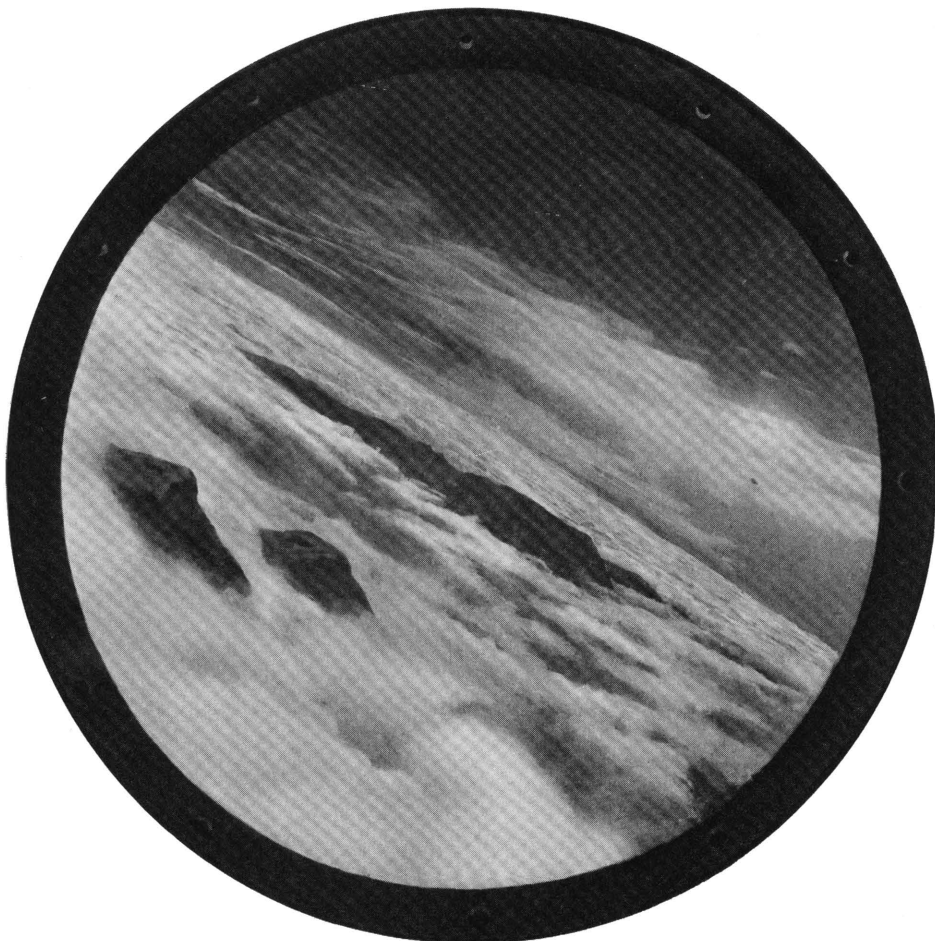
His private observatory, near the Normandy coast, housed a 4-inch refractor. Rudaux spent countless nights there observing and photographing the Moon and planets. He also produced a photographic chart of the Milky Way, from which he developed an original theory of our galaxy's true nature: "The Milky Way is not one vast single spiral, but consists of a mass of [small] spirals, one of which contains the [solar] system to which we belong." Although erroneous, the idea had the endorsement of Harlow Shapley.

A TOUR OF THE SOLAR SYSTEM

Rudaux wrote and illustrated dozens of books and articles, ranging from guides for amateur astronomers to the landmark *Astronomie* (coauthored with Gerard de Vaucouleurs and published posthumously in 1948). But his masterwork was a "coffee-table" volume titled *Sur les Autres Mondes* (*On Other Worlds*). More than 400 illustrations, including 20 full-page color paintings, gave readers the most accurate and spectacular look at the solar system of that



Saturn's awesome crescent lights the sky of one of its satellites in a painting by French astronomer Lucien Rudaux. He took special care to portray accurately the rings and their shadow on the planet. All illustrations with this article were provided by the author. Except where noted, they are from the book *Sur les Autres Mondes*.



Left: Through the porthole of a descending spacecraft, Venus presents a dreamlike cloudscape, broken by lofty mountaintops.

Below: Earthlight is the only illumination in this nighttime moonscape.


era. In more than a few cases his views, rendered 50 to 60 years ago, look as if they were produced within the last few years.

Especially striking are Rudaux's portrayals of the lunar surface. He was perhaps the only artist to anticipate the scenery found by Apollo astronauts — rounded mountains and rolling landscapes instead of the jagged, forbidding peaks that were displayed on the covers of science-fiction magazines. Rudaux could not understand why illustrators persisted in this visual misconception. "If we reconstruct geometrically the outlines of certain lunar mountains from their observed appearance," Rudaux wrote in *Astronomie*, "we shall find that instead of being steep and jagged, they have quite gentle slopes and their summits are frequently flat or smoothly rounded. This is confirmed by our observations of mountains seen sideways standing out from the edge of the disk.

Using his keen observational skills as an astronomer, Rudaux gave his artwork an uncanny prescience. He pictured Venus as an eroded, rocky dust bowl, not unlike the one found by automated Soviet landers. In depicting Mars as seen from its satellites, Rudaux painted numerous vague, circular features — foretelling the spacecraft discovery of a crater-pocked surface. His expert knowledge of perspective added realism to portrayals of Saturn's rings as seen from the planet's cloud tops, and of Jupiter and Saturn in the skies of their satellites.

Rudaux reached his largest audiences through newspapers. For more than a decade, Rudaux gave his imagination free reign in a series of colorful Sunday supplement pieces for *The American Weekly*. Here he discussed and vividly illustrated less technical subjects, including the end of the world, life on other planets, exotic solar systems, and the Moon's demise.

In Europe, he produced a series of articles on astronomy for the *Illustrated London News*. A young architect named Chesley Bonestell, then working for the paper, was greatly impressed with Rudaux's work. Bonestell went on to become the premier space artist of his time, and Rudaux's influence shows in many of his own planet-scapes.

"May we some day be asked to leave this modest planetary globe upon whose surface we now pass our lives?" Rudaux began a 1926 article with this question, but he never doubted the answer. His paintings anticipated the sights beheld by future explorers, both automated and human. One of those explorers, Mariner 9, found what became a memorial to the French artist (who died in 1947) while orbiting above the bleak, rust-hued Martian landscape: a 65-kilometer-wide crater that now bears his name. 

Ron Miller, an artist known for his portrayals of other planets, co-authored, with William Hartmann, The Grand Tour: A Traveler's Guide to the Solar System.

