

# OFF THE BEAT

## On the road to Viking: Musings on Lowell, Mars and the active night sky

On the way to California for the Viking 1 landing on Mars, I stopped at the U.S. Geological Survey's Branch of Astrogeologic Studies in Flagstaff, Ariz. It was there that the map of Mars reproduced in our special June 5/12 issue was prepared. Now were being assembled wall-sized photomosaic views of Mars taken by the Viking 1 orbiter. Somehow it seemed appropriate that these strikingly detailed photographs of the actual Martian surface were being put together only about a mile from the telescope at Lowell Observatory used by Percival Lowell to observe and draw what he was convinced were artificial canals on Mars. From the speculative imaginings of three quarters of a century ago to the photographic realities of today. Both, in their own way, equally compelling.

That map, by the way, the most refined map in existence of Mars, has been printed and is available to the public for \$1 from the U.S. Geological Survey, Denver, Colo. 80225, or Reston, Va.

22092. Ask for "Topographic Map of Mars," M 25M 3 RMC 1976. The map, including the polar regions, is on a sheet about 3½ feet square.

Worth recalling: Viking Project Manager Jim Martin answering a question about what role luck played in the successful Viking landing: "I just want to say one word with respect to luck. I don't plan on luck. I believe that most of it you make. . . . It's people doing that extra job. . . . We had a little concern for the radar in the pre-sep checkout, and . . . some 50 guys in Denver turned to and ran probably a dozen tests on those radar altimeters inside of eight hours, and that convinced us we didn't have any problem whatsoever. And it's that kind of dedicated, undirected work and effort that, as far as I'm concerned, is what you use to replace luck."

Yes, Virginia, there is a night sky after all. Those of us condemned to live under the cloud-covered, smog-shrouded or artificially lighted skies of the East Coast or of major urban areas anywhere may have forgotten (if we ever knew) what the stars can really look like under good conditions. I grew up under the crystal clear skies of rural northern Colorado, and partly due to that brilliant nighttime panorama developed a love of astronomy that has continued till today despite the virtual

absence of anything to see in the sky above Washington. Thus my delight stopping for a weekend visit at my parent's home in Colorado on a return from Viking and being dazzled once again by that majestic night sky. Vega, Deneb, Altair, Arcturus, all absolutely brilliant. The Milky Way, a stunning swath of light across the heavens. Thousands of stars seldom seen under urban soup. Then the best reward: sleeping out under that sky, we later awakened in the middle of the night to be treated to the sight of 11 meteors and 4 satellites in one 30-minute period. I wish all my urban friends could have shared it.

It's hardly surprising that with good conditions one could spot four satellites in a half hour. According to the North American Air Defense Command in Colorado Springs, which keeps track of all these things, as of July 25, there were 3,914 objects in earth orbit. Some 820 of them were the intended satellites themselves (the payloads of launches); 3,094 were debris (rocket boosters and other byproducts of launches). The satellites are divided about equally between American and Soviet: 396 belong to the United States, 372 to the Soviet Union. The remaining 52 are other countries'. It's a busy sky.

Our man at Viking: Jonathan Eberhart, our veteran space sciences editor, is responsible for the excellent news reports on Viking you've been reading in SN. He's been in Pasadena for more than two months now, reporting on the mission, and will stay there at Viking headquarters to provide you with continuing coverage of this epic scientific event for many weeks to come.

—Kendrick Frazier



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