



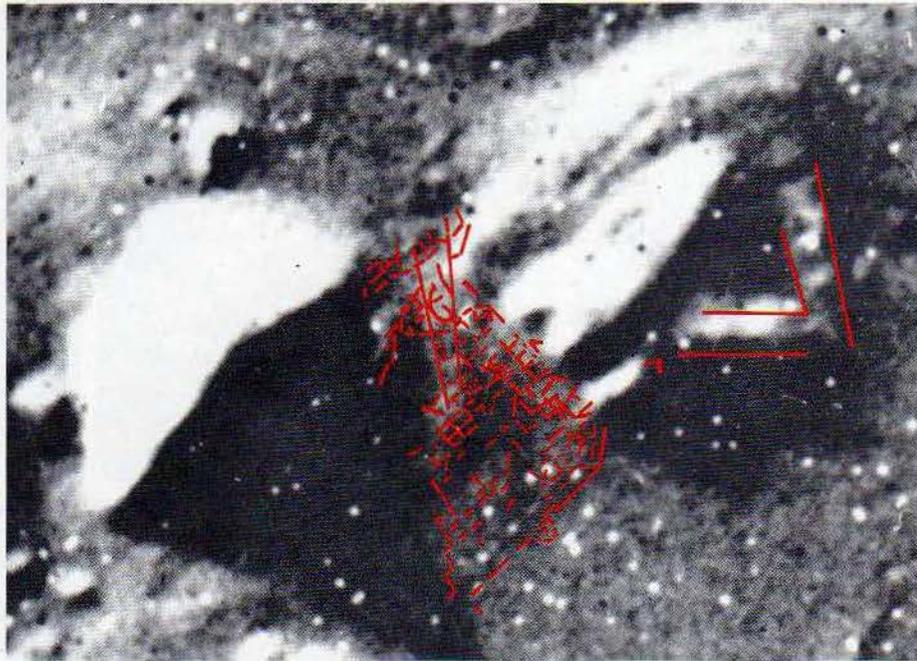
*First there was the
Face in Space. Now it appears that
the face has suburbs*

METROPOLIS ON MARS



Before the two Viking landers descended to the Martian surface in 1976, the mother craft of one of them photographed a seemingly unremarkable stretch of desert. Three years later two computer scientists, Vincent DiPietro and Gregory Molenaar, then affiliated with NASA's Goddard Space Flight Center, in Greenbelt, Maryland, came

●In the shadow of the largest pyramid (below) was the tracery of a honeycomblike structure.●



across the image of a face on Mars and of a nearby structure resembling a pyramid. In their off-hours they applied their considerable expertise to enhance the more subtle details of the images. Though the face was said to exist only in one Viking photo, the two discovered a second photo of the face, made 35 days later at what they said was a different sun angle and time of day. By applying sophisticated image-processing techniques to the second image, DiPietro and his partner discovered that the face was truly symmetrical. It had two halves, each containing an "eye," a "cheek," and an appropriate continuation of the "mouth." Most provocative, in the first photo, they discovered what resembles an eyeball with a visible pupil in the eye socket. Their conclusion, after studying all these data, was that this neat symmetry raised a "doubt that nature was totally responsible" for the image. (See "Face in Space," April 1982.)

Science writer Richard Hoagland had known of DiPietro and Molenaar's work, and after receiving a copy of original photos of the face, he discovered what may be the key to its origins and its reasons for existing—what he calls the city. In interpreting additional features in the original Viking photo (number 35A72), he claims to have found a clue to a lost civilization on Mars.

The focus of his attention is a collection of surface features located to the west of the

face. Among them is a gridlike pattern of rectilinear markings like the layout of a city. He also spotted a series of right angles contributing to an overall impression of a main avenue leading toward the face.

After a few minutes of work with a ruler and protractor, Hoagland discovered that this main "avenue" seems to be aligned in a special way with the face, which itself runs along a northeast-southwest axis. Using information supplied by Mars expert William Ward, of NASA's Jet Propulsion Laboratory, in Pasadena, California, Hoagland calculated that about one half million years ago the face could have been aligned on a true north-south axis with the Martian poles. Back then, someone standing in the center of his hypothetical city, gazing east toward the face, would be sighting along a solstice alignment. In other words, that Martian creature would be seeing the sun rise directly over the face on the longest day of the Martian year. Therefore, according to the inexorable laws of celestial mechanics, Hoagland theorizes that for 50,000 years, someone could have seen the first summer sun rise above the face each year. As the planet tilted, the alignment would disappear for one half million years or so, then return.

Closer inspection convinced Hoagland that there were at least three additional surface features—which he calls structures—with what appear to be walls aligned on the old north-south axis. He also noted the so-called pyramid, originally spotted by DiPietro and Molenaar and located on a hill south of the face. With a little more computation, Hoagland figured that his solstice

viewing line would have passed right through the top of the pyramid.

The most controversial of Hoagland's suggestions is that in the shadow of the pyramid exists honeycomblike tracery bearing an uncanny resemblance to the remains of a city. The region is a rough square measuring about one and one half miles on each side. With DiPietro and Molenaar's enhancement, the "walls" were faintly visible.

Although he admits it is possible these lines could have been by-products or glitches of the photo-enhancing process, Hoagland remains convinced that what he saw is actually there. For one thing, objects in the city cast shadows. For another, DiPietro and Molenaar claim they did not get these kinds of glitches with enhancements of aerial photos taken here on Earth. Finally, Hoagland says that there is no ready geological explanation for rectilinear patterns of this scale on Mars.

The grid spacing suspiciously resembles that of real city streets, and the layout is aligned toward the winter solstice sunrise. An architect friend, Arthur Stopes, pointed out to Hoagland that the buildings would have been oriented in a manner that would best use the scant winter warmth of the shortest day of the Martian year.

Hoagland states that if someone were to stand in the center of this city and face east just before dawn, he would see Earth rising over the enigmatic face of Mars. The conclusion Hoagland has reached is simple and startling: that we are seeing the product of intelligence at work. "Was it coincidence that one half million years ago [when a hominid known as *Homo erectus* was evolving here on Earth] celestial mechanics made the Martian summer sun rise over a remarkable likeness of man's image?" he asks.

There are many who are tempted to say yes. Mars expert and NASA engineer James E. Oberg has challenged Hoagland's city-on-Mars thesis on several points. First, he disputes the claim that two different photos of the face, taken at different times of day and at different angles, prove the three-dimensionality of the structure.

"This is not in accord with my own research nor with DiPietro and Molenaar's own book [*Unusual Martian Surface Features*]." Both photos were taken from nearly identical angles a little less than 36 Earth days apart. Converting the time to Martian days, Oberg computed that the photos were taken within two hours of the same part of the day, suggesting that the shadow would not have been different enough to confirm the three-dimensionality of the face. "So Hoagland's assertions just don't match the facts," he says.

As for the coincidence of the summer solstice sightline from the city to the mouth

Overleaf: Viking photos of a pyramid (at left in inset photo) and a structure known as the fortress (color enhanced), due west of the face. Were they built by an alien intelligence?

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of the face, Oberg admits that there was a time in the Martian past when the planet's tilt was different. But he adds, "that tilt varies so much that practically any view to the northeast will coincide with some tilt at some time in the Martian past."

Another outspoken critic of the Hoagland thesis is Harold Masursky, senior scientist with the U.S. Geological Survey and one of the world's leading experts on Martian geology. He headed the NASA group in charge of selecting the sites where the Viking landers set down.

Concerning the face, Masursky says it is "interesting because it is a face, but it's in an area dissected by erosional agents—water and frost heavings. It's one of many thousands of little mesas on Mars, and many of them are shaped by incipient faulting. Of these many mesas there are one or two that have lifelike features."

And as for the pyramid structure in the region of the city, Masursky says, "It's a piss-poor pyramid. It looks like an erosional product. In central Nevada I have found a pyramid, formed partly by stream erosion and faulting, that's better than that. If you're going to say features like that are evidence for a past civilization, that's total nonsense."

Masursky told *Omni*, "I'm working on find-

ing landing sites for a possible Mars Rover. And this [the city on Mars] is not one of the areas where I would send what is probably a thirty-billion-dollar mission. In fact, if somebody brought us a free one, I'm not sure I'd send it there because there are too many other places that are more interesting."

Interestingly, however, neither Oberg nor Masursky dismisses the possibility of intelligent life, or at least life, on Mars. "I do think that the most likely evidence for extraterrestrial intelligence will be artifacts we will stumble across," Oberg says, "and I doubt if they will be small. So searching for artificial structures in space pictures is legit—as long as the facts and arguments are sound." For the time being, however, the most positive thing he is willing to say about the Martian-city theory is that "It is quite a piece of folklore."

Although he is doubtful any civilization thrived on Mars, Masursky remains an open-minded skeptic. Mars has had water as well as long periods of severe drought throughout its history, he explains. It is farther from the sun than Earth is, and its water was trapped as ice for much longer spans of time. All of this means that there were fewer eras of favorable climate for intelligent life and civilizations to evolve. "But I cannot say there were no civilizations on Mars," he admits. "I just don't think it's very likely there were."

In the meantime, Hoagland continues working in spite of the criticisms. He assembled a team of scientists under the title of

the Independent Mars Investigation Team to study his calculations and discoveries. After analyzing Viking orbiter photos, they reported at the Mars II conference in Colorado last summer that there were enough anomalies to warrant further investigation.

To do that, a second effort, called the Mars Investigation Group, was begun. It is organized under the direction of C. West Churchman and Tom Rautenberg, of the International Program in Applied Systems Design, at the University of California at Berkeley. The group has asked for and received image-data tapes from NASA and plans to assign 16 images for analysis to four teams of scientists working out of some of the country's top research centers. Experts at MIT's Artificial Intelligence Laboratory; Bell Labs; Lucasfilm Ltd.; and the Earth Satellite Corporation, which analyzes Landsat images, will independently enhance and study the Viking photos. Rautenberg and his associate director, former astronaut Brian O'Leary, say they are making an effort to answer "an open scientific question." By the fall of 1985, he and the team will publish a lengthy technical report on their findings.

"Now that we have glimpsed what may be waiting in our investigation of Mars," Hoagland says, "we face the question, What else lies undiscovered or ignored on the Viking project's remaining one hundred thousand magnetically recorded images?" In the months to come, he plans to find out. ∞



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