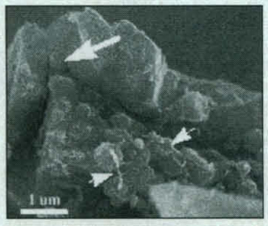
Martian Life: Another Round

Scientists involved in the now-suspect discovery of signs of fossilized life on Mars say they have found evidence of past life in a second martian meteorite. But the latest announcement, made this week at the annual Lunar and Planetary Science Conference in Houston, so far has left colleagues underwhelmed.

Using a powerful scanning electron microscope, geologist David McKay and a team at the Johnson Space Center found rounded or spherical "units" measuring 0.2 to 1 micrometer in a meteorite called Nakhla, discovered in Egypt in 1911. The units, they say, resemble small fossilized bacteria. McKay declined to be interviewed before his talk, given after *Science* went to press, but his online abstract says some groupings are reminiscent of dividing bacteria. It argues that their textured surface, the presence of lacy material resembling the mineralized biofilm produced by bacteria, and an occasional fibril-like filament also suggest "possible bacteria in Nakhla."



Rounded structures in a martian meteorite at least look like bacteria.

Researchers have heard all this before. McKay's group made similar "if it looks biological it's probably biological" arguments in 1996 for microfossils in ALH84001, notes microscopist John Bradley of MVA Inc. in Norcross, Georgia. But the group has since retracted those claims, conceding that some apparent microfossils were too small ever to have been alive and others were parts of the underlying rock.

"It's very hard to prove" such phenomena are biological, says meteoriticist Horton Newsom of the University of New Mexico, Albuquerque. To see them properly requires a sophisticated scanning electron microscope, but at that fine scale it is impossible to determine composition. So, he says, "they have a long row to hoe to convince people."

New Foot on the Accelerator

Fermilab has found its fourth director. Michael Witherell, a particle physicist at the University of California, Santa Barbara, will take over the world's most powerful particle accelerator, in Batavia, Illinois, on 1 July. He succeeds John Peoples, who's retiring after a decade on the job.

Witherell, 49, is no stranger to the often turbulent politics of particle physics, having led several high-profile panels that advised Congress and the Department of Energy on how to make the best use of shrinking budgets for high-energy physics. Now, he will try his hand at keeping Fermilab, founded in 1967, at the forefront of a field that continues to face money troubles. "I didn't take this job because I thought it would be easy," he says.

Physicist Wins Religion Prize

Ian Barbour, 75, a physicist and theologian at Carleton College in Northfield, Minnesota, has been awarded the world's largest annual monetary prize. The Templeton Prize for Progress in Religion, worth $1.24 million, was founded by Wall Street entrepreneur John Templeton to supplement—and top—the Nobels. It has gone to figures as diverse as Mother Teresa, University of Adelaide physicist Paul Davies, and former Nixon White House counsel Chuck Colson, who found God while in prison for his role in the Watergate scandal.

Ian Barbour

Barbour, author of numerous books on science and religion, is credited with having launched "a new era in the interdisciplinary dialogue" and for being "one of the world's most forceful advocates for ethics in technology." He plans to give $1 million to the Center for Theology and the Natural Sciences at the Graduate Theological Union in Berkeley, California.

Innovation In a Cold Climate

Scandinavian countries are headed to the top of the list of global high-tech innovators, while the United States is sinking, according to a new analysis called the Innovation Index. It predicts that the U.S. will fall from first to sixth place by 2005 unless the government revises its R&D policies.

The new index, created by Michael Porter of Harvard Business School, was presented last week at a gathering hosted by the Council on Competitiveness, a Washington, D.C.–based group of industrialists and policy-makers. It goes beyond efforts to measure competitiveness, which have looked at market dominance, to a broader definition of innovation based on such factors as a country's per capita R&D spending, percentage of the population with advanced degrees, and policies to protect intellectual property. These factors correlate with the number of international patents, which Porter sees as a short-term measure of innovation.

The most impressive performer in Porter's Top 10 is Finland, which he predicts will jump from sixth to second place, thanks to a small, technologically literate population (it has the highest rate of Internet connections in Europe) and the success of such communications giants as Nokia.

Porter says the United States, despite a booming economy, is headed for a slump if it doesn't boost R&D spending, train more scientists and engineers, remove regulatory roadblocks, and push harder for open markets abroad. A prolonged recession hasn't knocked Japan from the top ranks, he notes, because of its continuing commitment to innovation.

CHANGING OF THE INNOVATION GUARD

1995	2005
United States	Japan
Switzerland	Finland
Japan	Switzerland
Sweden	Denmark
Germany	Sweden
Finland	United States
Denmark	Germany
France	France
Canada	Norway
Norway	Canada

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