The First Europeans?

A provocative new find in the Republic of Georgia suggests that humans may have wandered into Europe hundreds of thousands of years earlier than previously known. Researchers have unearthed two hominid skulls near the medieval city of Dmanisi that they claim are about 1.75 million years old.

Until this discovery, the oldest reliably dated human artifacts in Europe were about 1 million years old, and the oldest human bones on the continent, found in Spain, were about 800,000 years old. Although other evidence indicates that humans headed out of Africa for points east about 1.4 million years ago, "it would be surprising to see them already settled in the Caucausas at 1.8 million years," says anthropologist Phil Rightmire of the State University of New York, Binghamton.

Archaeologist Olaf Jöris of the Roman-Germanic Museum in Mainz announced his team's findings at a press conference earlier this month. The researchers dated sediments surrounding the skulls with two methods, one that compares the magnetic fields of crystals with Earth's paleomagnetic historical record, and another that uses the ratios of argon isotopes in the soil to determine age. They have preliminarily identified the skulls as belonging to *Homo erectus*, a human ancestor known to have lived in Africa from 2 million to 1.5 million years ago.

Ain't No Mountain High Enough

In the name of science, or at least accuracy, a research team has scaled Tanzania's Mt. Kilimanjaro to determine just how high the mountain is. They lugged to the mountaintop several global positioning system (GPS) receivers, which time and triangulate signals from satellites to pinpoint three-dimensional position to within a few centimeters. After returning on 5 October, the geodesists, most from Karlsruhe University in Germany, released a preliminary estimate of 5892 meters—a tad lower than the official height of 5895 meters estimated from atmospheric pressure.

When the Moon Hits Your Eye Like a Big ...

A symbol of engineering prowess if not of science, the international space station is about to open up at least one new frontier: corporate advertising at superlow G. Pizza Hut, a restaurant chain, has cut a deal with the Russian Aviation and Space Agency (RASA) to emblazon a Proton rocket with its new logo, 10 meters tall. The rocket is scheduled to blast off in late November to deliver the space station's living module.

Neither Pizza Hut nor RASA would confirm the ad's price, rumored at $1 million. RASA officials say the money will be invested in their space program.

"The Pizza Hut initiative is a major step toward commercializing space," says U.S. astronaut Rick Hie. That step could have been one crass leap: According to a Pizza Hut spokesperson, the idea for the rocket ad campaign grew out of a scheme, since abandoned, to project Pizza Hut's logo onto the moon.

Engineering Award, Line 1

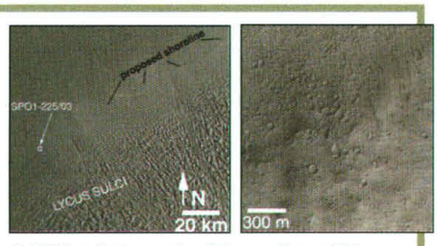
The 1999 Charles Stark Draper Prize, considered the highest honor in engineering, will go to three fiberoptics pioneers, the National Academy of Engineering announced last week.

In the 1960s, Charles K. Kao, now CEO of Transtech Services Ltd. in Hong Kong, first conceived of communicating with light transmitted through glass rather than bulky copper wires. Robert D. Maurer of Corning Inc. in Corning, New York, then produced the first fused silica fiber that retained enough light signal to work for telecommunications. Finally, John B. MacChesney of Bell Labs in Murray Hill, New Jersey, designed a process for creating pure optical fibers that consistently carry a high-quality signal.

Thanks to their work, the academy says, Earth is now wound with enough optical fiber to go to the moon and back 280 times.

Mars Shorelines Evaporate

Turn-of-the-century astronomer Percival Lowell, given to fanciful perceptions of canals and oases on Mars, must be sighing in his grave. New analyses of images from the Mars Global Surveyor spacecraft show no obvious signs of a former ocean where earlier Viking orbiter images had suggested an ancient shoreline might lie.



A 1970s photograph of the surface of Mars (left) appears to trace the outlines of an ancient ocean. New high-resolution images (right) of an area in the white box (left) reveal no obvious shoreline patterns.

In the 1970s, Viking images revealed tantalizing hints of a wet Mars long ago, in the form of sinuous gullies, branching networks of valleys, and teardrop-shaped mounds. Some scientists also perceived embayments, cliffs, and other subtle patterns hauntingly similar to coastal features on Earth. The new images, up to 10 times more detailed than those from Viking missions, covered areas designated by Jet Propulsion Laboratory (JPL) scientists in Pasadena as possible relics of ocean shores. But in each case, the martian landscape lacked abrupt, wave-cut transistions and telltale lines of eroded rocks deposited by waves.

JPL planetary geologist Timothy Parker holds out some hope for martian ocean enthusiasts. The big-picture Viking images may reveal sweeping coastal patterns more effectively than up-close scrutiny, he says, much like art connoisseurs taking a few steps back to appreciate an impressionist painting.

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