# RANDOM SAMPLES

edited by CONSTANCE HOLDEN

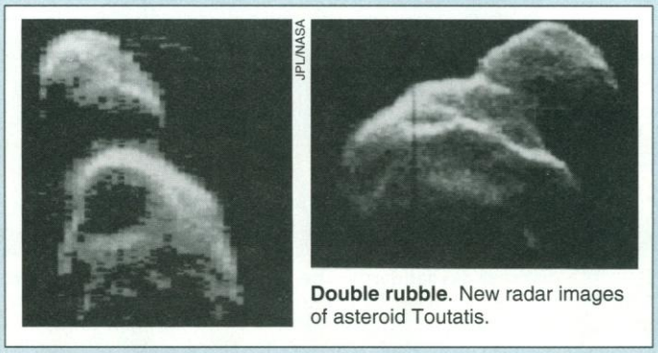
## New EC Research Commissioner

Former Italian science minister Antonio Ruberti last week began his 2-year term as the European Community's (EC) new commissioner for research—and hopes for his tenure are high. Ruberti, who spent a decade as president of the University of Rome, served as Italy's minister for universities and research from 1988 until last summer and is well regarded by researchers there: He earned plaudits from scientists for moving Italy's universities out of the sprawling education ministry and combining them with research in a separate ministry, and for his attempts to introduce better quality control into the award of research grants.

Antonio Ruberti

Many observers think Ruberti, a systems engineer, will be an improvement over his predecessor and compatriot, career politician Filippo Pandolfi, who many academics feel neglected basic research. Ruberti's appointment also coincides with the announcement of a $1.1 billion increase over the next 2 years to the current 5-year, $6.9 billion EC research budget. But not all of that new money will come under Ruberti's purview. As part of the reorganization of the European Commission (the EC's executive) that has brought Ruberti to Brussels, information technology and telecommunications—which together account for more than 40% of the EC's research spending—have been passed to Germany's Martin Bangemann, the commissioner for industry.

Ruberti is expected to bring a stronger emphasis on basic research in the remainder of the EC's programs—particularly biology. Says molecular biologist Glauco Tocchini-Valentini, director of the Italian National Research Council's Institute of Cell Biology in Rome, and one of Ruberti's advisers: "He thinks biology will be the most important thing for the future."




**Double rubble.** New radar images of asteroid Toutatis.

## Radar Spies Second Dumbbell Asteroid

Astronomers beaming radar signals into space from the desert outside Los Angeles found early last month that the asteroid Toutatis, discovered in 1988 by French astronomers, is actually two jagged, battered objects about 4 and 2.5 kilometers in diameter held together by nothing more than their own feeble gravity. The observation comes from radar images made during a close (3.6 million kilometers) brush with Earth.

The revelation comes on the heels of other discoveries that suggest Toutatis has company. The same week that Toutatis was being probed by Steven Ostro of the Jet Propulsion Laboratory and his colleagues, Scott Hudson of Washington State University was telling planetary scientists at a meeting in San Francisco that he and Ostro had confirmed from an earlier radar study that the asteroid Castalia is also a binary body. And in the same session, researchers debated whether images of the asteroid Gaspra returned by the Galileo spacecraft show that Gaspra as well is composed of two lumps of rock (*Science*, 1 January, p. 28).

Since only three asteroids have been inspected in any great detail, that would make the binary total at least two if not three out of three. "You can always write off one binary object as a fluke," says asteroid specialist Clark Chapman of the Planetary Science Institute in Tucson, "but now that we have the second clear case...it has to be taken seriously that a large fraction of asteroids are binary."

Since there are closely spaced pairs of impact craters on Earth, the moon, and Mars, it isn't a complete surprise that asteroids come in pairs. Still, no one imagined that couples would be quite so common in the world of asteroids. But, when it comes to changing minds, says Chapman, "there's nothing like seeing a picture."

## Another Bad Break for Dante

For want of a spare cable, Dante, NASA's eight-legged robot, won't be descending into the Inferno this winter after all.

On New Year's Day, after numerous delays, Dante, which was built at Carnegie-Mellon University, finally began crawling down into the crater of Antarctica's Mount Erebus volcano. Its mission: to demonstrate technologies for future robotic exploration of Mars and the moon and to do basic geology, including chlorine and fluorine measurements that could clarify the origins of the Antarctic ozone hole.

But after rappelling on a tether just 6.5 meters down from the crater's rim, the instrument-laden robot came to an abrupt halt. The villain proved to be the fiber optic cable connecting its onboard sensors and motors with Dante's brain: a set of navigation and perception computers at the mountainside base camp. The cable was supposed to unreel smoothly as Dante worked its way to the molten lava lake at the crater's bottom, but instead it quickly developed kinks. And when scientists tried to straighten things out, the fiber broke, effectively giving Dante a lobotomy. With no replacement cable on hand and with only 2 weeks remaining to avoid Antarctica's summer storms, the Erebus team had no choice but to scrub the mission.

The scientists took solace in the fact that Dante itself had operated perfectly in the harsh, Mars-like conditions. In fact, said NASA robotics chief David Lavery, the project was "an unqualified success"—at least in demonstrating remote control of the robot: The day before the aborted mission, a Carnegie-Mellon group at the Goddard Space Flight Center near Washington, D.C. had briefly taken control of Dante via satellite, much as they would have if the robot were operating on the moon.

The geologists on the team had less to cheer about. Nonetheless, "this has whetted the appetite of volcanologists everywhere," according to coprincipal investigator Phillip Kyle of the New Mexico Institute of Mining and Technology, who predicts that "we will be seeing robots exploring inside volcanoes around the world in a few years."

Indeed, if NASA can summon up the funds, Dante may well have another go at Erebus late this year.

## TB Funding

In an item on a new TB research facility (11 December 1992, p. 1734), we said the government's investment in TB research was only $5.4 million for fiscal 1993. But that figure's out of date, says the National Institute of Allergy and Infectious Diseases. Additional funds were redirected to the effort early last year, and the 1993 budget now stands at $14.7 million.