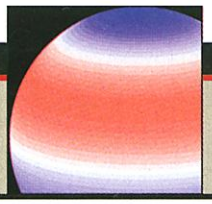
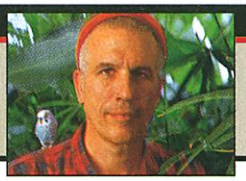




Others, meanwhile, say they're staying the course. Art Ramirez, a physicist at Los Alamos National Laboratory in New Mexico, for example, says his group isn't planning any drastic shifts. Ramirez has about five people working directly on extending Schön's results using high electric fields produced by transistors to explore new physics in organic materials. Ramirez created a buzz at the American Physical Society meeting in March when he reported that his team had used the transistor setup to trigger a normally insulating crystal of C_{60} to behave like a metal. Schön and colleagues had previously reported using the same setup to coax C_{60} to go one step further and superconduct. Ramirez's team hasn't duplicated that result. But he believes he's close and therefore is reluctant to alter his focus. "Things will just change overnight if we can duplicate this," Ramirez says. Perhaps no one is pulling for him to succeed more than Hendrik Schön. **–ROBERT F. SERVICE**

SPACE SCIENCE

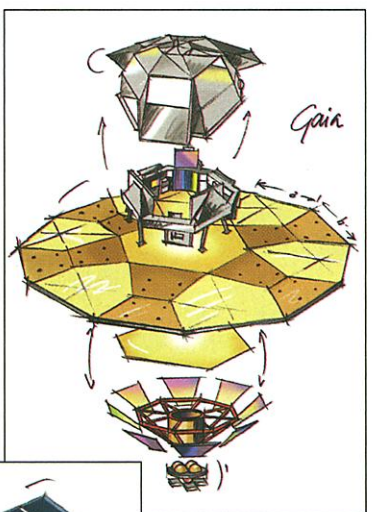
Europe Does More With Less

PARIS—Last November, Europe's space scientists faced a grim future. Ministers meeting in Edinburgh had capped the European Space Agency's (ESA's) science budget over 3 years, forcing about $460 million in savings in the next decade. It seemed certain that one large mission would have to be scrapped, most likely a galaxy-charting satellite called Gaia. It was, according to David Southwood, ESA's science director, "a rather dismal picture."

At a press conference here on 27 May, Southwood and his team emerged from a 6-month huddle to unveil an ambitiously revised slate of missions. By reshuffling schedules, squeezing money from existing programs, and weaving together the development of missions as tightly as possible, they have transformed a program of 12 launches in 11 years into one of 16 launches in 10 years. They even managed to save Gaia and introduce a new mission into the $3.4 billion mix. Despite the axing of one planetary mission, "the final result is the best of the possible solutions," says Bo Andersen of the Norwegian Space Centre in Oslo, chair of ESA's Science Programme Committee.

Over the next decade, Southwood's "cosmic vision" program calls for, among other goals, landing spacecraft on Mars, Mercury, Saturn's moon Titan, and a comet; observing the birth, evolution, and death of stars and galaxies at gamma ray and infrared wavelengths; studying the afterglow of the big bang; and mapping the positions and motions of nearly every star in the Milky Way. ESA will also join NASA in building Hubble's successor, the Next Generation Space Telescope, and LISA, a gravitational wave observatory in space.

The program's transformation squeezes many missions to the limit. For example, Gaia is now $140 million cheaper thanks to a less costly spacecraft that will fit on a smaller launch vehicle. For the BepiColombo mission to Mercury, ESA is hoping to cut a deal with Russia on a less expensive lander and launcher. Also to cut costs, BepiColombo will be delayed a few years and developed in tandem with the Solar Orbiter, a mission to study the sun. All this leaves little slack in the program. "You can do this only once," says Southwood. "[ESA ministers shouldn't] ask me to repeat the trick. I'm not a magician."



Double save. Europe's new plan preserves Gaia (*top*) and includes Eddington.

The savings have allowed Southwood to pull one extra mission out of the hat. Previously just a backup mission, Eddington will study the composition and structure of stars by measuring seismic vibrations at their surfaces, a technique known as asteroseismology (see p. 1595). It will also look for small extrasolar planets moving across the disks of parent stars. Eddington is a step toward a proposed mission called Darwin, pegged for 2015, that would study the atmospheres of extrasolar planets and search for life. "I can't imagine a human being not interested in this," Southwood says.

The drastic pruning of the program budget did nip one bud, however. ESA's planned mission to Venus, called Venus Express, was dropped last week because "not everybody could commit to the necessary schedule," says Southwood, who warns that future missions that don't stick to tight schedules might suffer the same fate.

Some scientists rue the loss of Venus Express. "It's tragic that we now have a scientifically very interesting mission without an option of really flying it," says Michael Grewing of the Institute for Millimeter Radio Astronomy in Grenoble, France, chair of ESA's Space Science Advisory Committee. But Southwood's sword of Damocles hanging over future missions might end up saving Venus Express in the end. Grewing says that Venus Express could get a second chance if another mission is dropped from the roster. According to Joop Hovenier of the Free University in Amsterdam, the decision to cancel Venus Express came like a bolt from the blue. "It's a pity," he says. "It was a cheap mission, because it would use the same platform as Mars Express. You would expect projects like that to be applauded." **–GOVERT SCHILLING**

Govert Schilling is an astronomy writer in Utrecht, the Netherlands.

BIOTERRORISM

Congress Adopts Tough Rules for Labs

Biomedical and agricultural researchers working with potential bioweapons face an array of new regulations under a new U.S. law aimed at combating bioterrorism. Science lobbyists say that the rules, passed overwhelmingly last week by Congress, are more reasonable than earlier drafts developed last fall immediately after a wave of anthrax-tainted letters killed five people. But they remain cautious until the Bush Administration spells out how it plans to implement the law.

The Public Health Security and Bio-

CREDITS: ESA