RANDOM SAMPLES

edited by RICHARD STONE

U.S., Russia to Provide Crucial Aid to Scientists

The future has been looking especially bleak for scientists in the former Soviet Union (FSU). But now the U.S. and Russian governments and financier George Soros are coming to the rescue with a $20 million fund to promote joint research between U.S. and FSU scientists.

The biggest cash source for civilian FSU scientists now—Soros's $100 million International Science Foundation (ISF)—is scheduled to run dry in December. To help keep FSU scientists working in 1996, at the summit in Moscow last week President Clinton announced plans to form and fund the Civilian Research and Development Foundation.

It's not exactly a new idea. Congress authorized the foundation, the brainchild of Representative George Brown (D–CA), in 1992. It's been stalled, however, because the Defense Department—which will pay the U.S. government's $5 million share—has objected to not having control of the foundation, which will be set up by the National Science Foundation (NSF). The summit's lackluster agenda helped break the stalemate. "The president wanted something positive to announce," says a House aide.

Soros also played a big role, pledging $5 million of his own money and extracting a $10 million pledge from Russia. Other FSU republics will kick in small sums based on their economies. An NSF official hopes the agency's governing board will approve the foundation next month and have it running soon after.

The aid is seen as crucial to keeping civilian FSU researchers afloat. The 30,000-odd scientists currently supported by ISF "will be left in limbo if this program doesn't happen," says ISF's Alex Goldfarb. Some will be in limbo anyway: The new money is only enough to maintain about 60% of these scientists, he says.

Pollution-Eating Cars

While scientists debate whether electric cars are environmental saints or sinners (see p. 995), one firm has invented a catalyst that may turn gas guzzlers from air-foulers into cleanup machines.

Conventional automobile catalysts reduce smog-forming gases, such as volatile organic compounds (VOCs) and nitrogen oxides (NOx), before they leave the tailpipe. But the new catalyst, Engelhard Corp.'s PremAir, destroys two smog components—ozone and carbon monoxide (CO)—in air the car happens to pass through. The platinum-based catalyst coats a radiator. That way, air would flow over the catalyst, converting ozone to oxygen and CO to carbon dioxide. Engelhard, of Iselin, New Jersey, announced last month that field tests show the catalyst destroys up to 90% of the ozone and CO it contacts.

Independent tests suggest the catalyst should compete well with other green technologies. Modeling studies done at Systems Applications International in San Rafael, California, found that equipping cars with the new catalyst would be more cost-effective than electric cars and reformulated gasoline in reducing ozone and CO. "It's very innovative," says Kathleen Taylor, a catalysis researcher at General Motors in Warren, Michigan.

However, adapting the catalyst to meet clean air regulations won't be so simple. Environmental Protection Agency (EPA) rules limit emissions of VOCs and NOx, which form ozone in the presence of sunlight, thereby encouraging technologies geared toward reducing these emissions. But the new catalyst eliminates ozone and CO instead. "Finding a way to fit that into the regulatory structure is challenging," says Mary Nichols, EPA's top air official. "But we're willing to do everything we can."

Massachusetts Labs Go on Red Alert

The Unabomber has recently sent chilling letters to at least two prominent scientists—and last week reports surfaced of a third recipient. The flurry of activity has spurred Massachusetts labs to heighten their security.

The anonymous Unabomber is blamed for three deaths and 22 injuries since 1978 from mail bombs contained in carved wooden boxes. After an attack last month that killed a timber industry lobbyist, the Unabomber appears to be coming, to a degree, out of the woodwork. On 20 April, the bomber sent letters from Oakland, California, to biologist Richard J. Roberts of New England Biolabs in Beverly, Massachusetts, and Yale computer scientist David Gelernter, who was badly injured by a mail bomb in 1993. A third scientist—Massachusetts Institute of Technology (MIT) biologist Philip Sharp, who shared the Nobel Prize in medicine with Roberts in 1993—also received a letter, the *Boston Herald* reported last week.

The FBI would neither confirm nor deny that Sharp received a letter or disclose the contents of the letters sent to Roberts and Gelernter. But the professions of the recipients appear to confirm the Unabomber's claim, outlined in a letter to the *New York Times* also dated 20 April, that targets are "scientists and engineers ... in critical fields like computers and genetics."

According to MIT sources, mail to Sharp or MIT President Charles Vest is now being x-rayed. Security directors at other Boston-area universities and biotech firms say they too have redoubled efforts to screen packages. "There is definitely an increased awareness," says Lieutenant Larry Murphy of the Harvard police, who warns that packages lacking a return address or those resembling the Unabomber's past mailings—6 to 8 pounds, wrapped in brown paper with fiberglass-reinforced tape, and about 10 × 10 × 6 inches in size—should be viewed as potentially dangerous.

WILLIAM ZINSMEISTER

Catch of the day. Purdue's fossilized monster ammonite.

Ancient Mollusk Fossil Sparks Debate

Millions of years ago, ungainly mollusks called ammonites prowled the seas for prey. Just how they accomplished this prowling has been a mystery to paleontologists. But a fossil find of a 12-foot-long monster ammonite may hold some answers.

For 350 million years some 10,000 ammonite species lived throughout the world, until an event 65 million years ago—perhaps a meteorite—wiped out the dinosaurs and all the ammonites, whose closest living relative is thought to be the nautilus.

In December, Purdue University grad student Anton Oleinik found what his team claims is the largest specimen of *Diplomoceras maximum*. The team, led by Purdue geologist William Zinsmeister, unearthed the 12-foot-long fossilized shell on Seymour Island off Antarctica. They plan to submit their analysis to the *Journal of Paleontology*. "It's a spectacular find, by far the best preserved of this species," says University of Washington paleontologist Peter Ward.

Based on the fossil's size, Zinsmeister believes the creature was not much of a swimmer, forced to drift along the bottom. Ward, however, says the shell's structure suggests it had enough buoyancy to float. Oleinik offers a third view: *D. maximum's* symmetry allowed it to undulate and swim. The Purdue group is modeling the shell to test its buoyancy and perhaps answer these moving questions.