

September by research and technology minister Hubert Curien. According to Curien, the long-term program still has President François Mitterrand's support and France will go into the Munich meeting determined to save Hermes. "There is no reason why France should stop its commitment," he says. Daniel Sacotte, deputy director for international and industrial affairs, told *Science* that "We cannot just decide today to have another supplementary [technology] phase. This effectively means a moratorium and there is the word 'mort' (death) in 'moratorium.'"

The French are not the only ones who may feel bitter about any delay in Hermes' schedule. Guy Valentini, Hermes program officer at ESA's headquarters in Paris, says, "We are at the limit of stretching. Further stretching leads to cracks in the industrial layer which might not be easily reversible." German industry would be affected as well as other countries, he says, "but the real strain will fall on the small countries—Spain, Belgium, Switzerland, and the Netherlands—that are involved at subsystem and equipment level."

In the short term, the delays to Columbus will also cause German space industry some hardship. But for Riesenhuber, the big space projects remain insurance that European industry will stay in the high-technology race. His logic is "the principle of least regret," he says: To be on the ESA team is expensive, but to see others commercialize space while Europe sits on the sidelines would be much more costly. "Once we get out it will be extremely difficult to get in again later on. For Europeans it makes perfect sense to build on their own competence in space transport techniques. To quit is out of the question."

Riesenhuber even singles out Germany's earlier penny-pinching in space research to emphasize his point. In the early 1970s, the German government refused full involvement in plans to develop European rocket technology. "France decided differently," recalls Riesenhuber. "Had France not stuck to it despite setbacks, we would not have Ariane now. For years Ariane was the only payload carrier of the free world, since the shuttle did not fly and the other unmanned rockets no longer existed in the United States."

European researchers may argue instead that the real lesson to be drawn from that example is that Europe should not now repeat U.S. errors by going ahead with a shuttle development program.

■ RICHARD SIETMANN and PETER COLES

*Richard Sietmann and Peter Coles are free-lance science writers based, respectively, in Berlin and Paris.*

## Social Science Gets a Leg Up at NSF

Just last year, the suggestion that the National Science Foundation (NSF) needed a separate bureaucracy to fund social and behavioral sciences was greeted with disinterest—if not outright hostility—by NSF's top brass, including then director Erich Bloch. But last week the agency made an about face, announcing that it would, after all, give the social, behavioral, and economic sciences their own directorate. So what changed in the last year? "We got a new director," says current NSF director Walter E. Massey.

Until now, social science has been nestled in a mega-directorate with the unwieldy title of Biological, Behavioral, and Social Sciences, an entity that has been traditionally headed by a biologist. The new directorate will have a budget of about \$70 million: \$40 million from the old biology directorate's \$200-million budget, and \$30 million from other foundation programs. It will also pick up the international program and the science resource studies program from the directorate for Scientific, Technological and International Affairs, which is being abolished.

Social scientists—who have lobbied long and hard for their own directorate—are ecstatic about the moves. Alan Kraut, director of the Washington office of the American Psychological Society, points out that the move will put the social sciences on a par with other disciplines in NSF's hierarchy. "[A]n historic day for social and behavioral science research," proclaimed Howard J. Silver, executive director of the Consortium of Social Science Associations.

If NSF was unenthusiastic about reorganizing its biological directorate, Congress has been warmer to the idea and pressured NSF to look into it. When Representative Rick Boucher (D-VA), who chairs the subcommittee that oversees NSF's activities in Congress, was persuaded a few months ago that the time was right for a social sciences directorate, the plan gained added momentum. The White House Office of Management and Budget also gave its tacit approval.

There will be a nationwide search for a new associate director to lead the new directorate. In the meantime, W. Franklin Harris, second in command of the old mega-directorate, will be acting director. ■ JOSEPH PALCA

## Court Leaves Patent Issue Unclear

Many biotech companies were on edge this fall, fearing that they might become entangled in costly legal challenges to their patents if the Supreme Court ruled on a case filed by the Cambridge, Massachusetts, firm Genetics Institute (GI). But now the gene-splicers can breathe easier: On 7 October, the Court declined to hear GI's petition.

The trouble began when GI lost a battle in the lower courts with Amgen, Inc. over priority for a genetically engineered product called erythropoietin, a promoter of red blood cell growth. Although Amgen won on appeal, GI wanted the Supreme Court to invalidate Amgen's patent because Amgen had failed to make available to the public a sample of the "best mode" of manufacturing erythropoietin under its patent. That is, Amgen did not submit to a public depository a batch of Chinese hamster ovary cells of the type it used to manufacture erythropoietin. The Patent Office requires such deposits when a biological invention cannot be adequately disclosed in words. In this case, Amgen argued, the technology was readily available to researchers, and all the law required was a full verbal description of it.

The appeals court agreed. The judges

wrote that biological deposits are mandatory only for patents on a new organism isolated from nature—such as a bacterium used in antibiotic manufacturing. As for genetically engineered organisms, the court decided that many gene-splicing techniques are now so well known that they can be used by anyone skilled in the art, so cell deposits are not always needed to make an invention publicly accessible. Says Joe Onek, an attorney for GI at the firm of Crowell and Moring, "The decision seems to leave much more leeway" for those who wish to avoid making a deposit.

Genetic engineering companies were relieved. According to Lisa Raines of the Industrial Biotechnology Association: "We were preparing to file an amicus brief supporting Amgen," because GI's argument threatened to open a Pandora's box of challenges to other patents for which no public deposit has been made. "Most companies are pleased" that the court is keeping the box shut, Raines says. She added, however, that the Amgen case leaves some uncertainty about when a public deposit is required. The Supreme Court, which reputedly hates patent cases, seems content to leave the issue fuzzy. ■ ELIOT MARSHALL