

ers John Irvine and Ben Martin at the University of Sussex's Science Policy Research Unit, paints an equally gloomy picture. According to this report, four out of the five other leading scientific nations studied—the United States, West Germany, France, and the Netherlands—spend more for academic research per capita than the United Kingdom.

Furthermore, in several areas of basic research, there appears to be an important gap between the United Kingdom and its European neighbors. Thus, in particle physics both France and West Germany spent almost twice as much as Britain in 1982, while in nuclear physics the gap was even larger. In chemistry, France spent 55% more than Britain on basic research, and West Germany 80% more.

The conclusions of the two reports have come as little surprise in London, since they largely confirm the widely held impression in the scientific community that constraints in public support, which have kept the research budget virtually constant since the mid-1970's, have eroded Britain's position in the world's scientific community.

In both cases, however, the reports claim to have used a refined methodology which places such arguments on a sounder footing than in the past. The Royal Society report, for example, involved the experimental use of new techniques of citation analysis for assessing national performance in basic research, concluding that "there are now promising techniques for doing this." ■

DAVID DICKSON

## Britain to Create New Network of Science and Technology Schools

In one of the most significant educational innovations since the elimination of its two-tier state school system 20 years ago, the British government has announced plans to create a network of 20 new schools specializing in science and technology.

The schools will each be able to accept up to 1000 students between the ages of 11 and 18, and will be jointly financed from both government and private funds. Unlike the present state schools, they will not be run by local education authorities but by independent "educational trusts."

Plans for the creation of what will be known as City Technical Colleges (CTC's) were announced by the secretary of state for education and science, Kenneth Baker, during the recent annual meeting of Britain's ruling Conservative Party.

The move is intended both to meet rising concern in Britain about the standards of education offered by the publicly funded school system—an issue that is likely to be featured in the parliamentary elections which could take place next year—and to boost the country's technical and economic performance.

The government's plans have already generated strong opposition in parts of the teaching community. Many teachers argue that, by promising to attract the brightest students from the current state schools, the new schools threaten to re-create the social inequalities that the abolition of grammar schools in the 1960's was supposed to have eliminated. They also claim that they may draw resources away from the rest of the school system. ■ DAVID DICKSON

## Refusenik Geneticist Released

In one of the most precipitous of the current bewildering series of transactions with the Soviets, ailing refusenik geneticist David Goldfarb and his wife were allowed to leave Moscow on the private jet of industrialist Armand Hammer on 16 October.



David Goldfarb, now in U.S.

Goldfarb, hospitalized with complications from severe diabetes, had been trying to emigrate for 8 years. Two years ago his visa was withheld and he was accused of conspiring to take national security materials out of the country after he refused to participate in a frame-up of journalist Nicholas Daniloff.

Goldfarb's son Alex, an assistant professor of microbiology at the Armand Hammer Health Science Center at Columbia Univer-

sity, has been engaged in ceaseless efforts—including a trip to the summit meeting in Reykjavik—to get his father released. Last July he sent a telex to Hammer, who has been active in bringing in American doctors in the wake of the Chernobyl disaster, pleading with him to intervene in the case. Daniloff also wrote Hammer on Goldfarb's behalf prior to his own arrest.

The U.S. government played no part in the sudden developments, although Goldfarb had replaced Yuri Orlov, recently freed from Siberian exile, at the top of the list of people whose release is being sought.

Hammer told the *New York Times*, during a refueling stop in Iceland, that Soviet General Secretary Gorbachev had personally approved the departure of Goldfarb and his wife Cecilia after Hammer had raised the issue with former Ambassador to the United States Anatoly Dobrynin. Hammer rushed to the hospital and the Goldfarbs' apartment to impart the news to the couple, and the party swept out of Moscow the following day.

Upon arrival in Newark, Goldfarb was taken by ambulance to Columbia Presbyterian Medical Center in New York. ■

CONSTANCE HOLDEN

## Academic Pay Cap Could Result from California Initiative

If California voters approve it, a salary cap for California state employees on the 4 November ballot could mean a cut or freeze in salary for more than 5,000 of 12,000 University of California faculty members, say university officials. Hardest hit would be the state-operated professional schools, where the pay of an estimated 74% of faculty exceeds the projected cap.

Proposition 61, as it is known, limits compensation for all public employees except the governor to \$64,000 a year. University officials are interpreting the somewhat ambiguous language of the initiative to mean total compensation, including benefits, so that salaries would be limited to about \$48,000.

Stanford University president Donald Kennedy warned that UC could be "disembowered by the errant populist impulse." He said that if the measure passes, California could "say goodbye to its medical schools and most of its law professors." UC Berkeley chancellor Ira Michael Heyman said passage "would reduce the university overnight into a second-rate institution."

Lawyers for UC say there is a possibility

that the university could be exempted from the measure because of the large degree of autonomy granted the university under the state constitution. Administrators and faculty at UC, however, have been working to rally support against the amendment on the assumption that the university would not escape.

UC vice president for budget and university relations William B. Baker has been quoted as warning that if the university cannot attract and retain leading scholars, particularly in the sciences and medicine, the state would lose its competitive edge in recruiting. ■ **JOHN WALSH**

## German Decision Improves Prospects for European Mini-Shuttle

*Paris*

After 2 years of intense lobbying by both the French government and its own aerospace companies, the West German government announced in Bonn on 17 October that it is prepared to pay 30% of the \$50-million preparatory-stage costs for the mini-shuttle Hermès, designed to provide Europe with an independent capability for manned space operations (*Science*, 17 January, p. 209).

Hermès is being designed to carry a crew of between four and six people, who will be able to conduct a range of research and other activities in low earth orbit, including the servicing of space stations. Currently scheduled for initial testing at the end of the 1990's, it will be launched from an expanded version of the French-designed Ariane rocket.

German chancellor Helmut Kohl said after a top-level meeting with both space and economic officials last week that a decision on whether to support construction of the mini-shuttle would not be taken until the end of next year. Much will depend on the estimated final costs, which German space scientists currently feel will be considerably higher than the \$2 billion being quoted by their French counterparts.

French officials, however, are now confident that they can persuade the European Space Agency to accept Hermès as a full European project to be developed in parallel with participation in the U.S. space station. The French government has said it will pay over 45% of the costs of the preparatory phase, and that it has more than enough commitments from other countries to meet the remaining 25%. ■ **DAVID DICKSON**

## NSF Examines Detail Of Its Salary Support

The National Science Foundation is taking a hard look at the academic salaries it finances through research grants. Foundation director Erich Bloch told *Science* that the survey portends no drastic action to make cuts, but is intended to help NSF see "What we are doing, what we want to do."

Asked what had called attention to the salary issue, Bloch said that salary payments had gone up about 50% in current dollar terms in the past 4 or 5 years, outdistancing the percentage increase in the overall NSF budget. (The fiscal year 1981 NSF budget was \$1.096 billion compared to \$1.458 billion for 1986, an increase of about 33%.) National Science Board chairman Roland Schmitt of the General Electric Company, said the survey was simply a matter of "prudent management when an element of cost is increasing."

Schmitt said, "The important thing is that people not leap to the conclusion that there is a problem there. That's not the case." However, he noted that salaries account for a large chunk of the NSF budget and that there are differences within the foundation and in the universities in how federal funds for salaries are administered, and "that is an area we have to understand." ■

**JOHN WALSH**

## Comings and Goings

Donald Hicks has carried out his threat to resign as the top scientist in the Department of Defense if he were not appointed to the newly created post of under secretary of defense for acquisition. Not only did the appointment go to somebody else—Richard P. Godwin, a former official of Bechtel, Inc.—but Hicks would have reported to the new acquisitions chief. Hicks left the Pentagon on 10 October.

The Soviet Academy of Sciences has elected **Gury I. Marchuk**, a physicist and mathematician, as its new president. Marchuk, 61, replaces the 83-year-old **Anatoly P. Alexandrov**, who has headed the academy since 1975. The Soviet news agency, Tass, said Marchuk was elected by secret ballot, but it also said that the Politburo had recommended him for the job.

The National Institute on Alcohol Abuse and Alcoholism has a new director, **Enoch Gordis**, a specialist in internal medicine. Gordis has been director of the alcoholism

program at Elmhurst Hospital in Elmhurst, New York, since 1971.

**William Raub** has been named deputy director of the National Institutes of Health, succeeding **Thomas Malone** who recently retired. Another NIH appointment is that of **Phillip Gorden** as director of the National Institute of Diabetes and Digestive and Kidney Diseases. Gorden, a diabetes specialist, has been with the institute for the past 20 years.



**William Raub**, new #2 at NIH.

President Reagan has picked five new members and one incumbent to fill six vacancies on the National Science Board, the policy-making body for the National Science Foundation. Senate confirmation is required for appointment to the 24-member board. Renominated for a second term is **Mary L. Good**, Allied Signal Corporation. The new members are **F. Albert Cotton**, Texas A&M; **John C. Hancock**, United Telecommunications, Inc.; **James B. Holderman**, University of South Carolina; **James L. Powell**, Franklin and Marshall College; and **Howard Schneiderman**, Monsanto Company. The appointees will fill six of the eight vacancies created in May by the end of board members' terms. A third of the NSB's 6-year terms lapse every 2 years.

Meanwhile, the National Science Board's chairman, **Roland W. Schmitt**, has stepped down as senior vice president of corporate research and development at General Electric to become senior vice president and chief scientist. **Walter L. Robb**, head of GE's Medical Systems Business Group, is filling Schmitt's position. Schmitt, 63, is nearing GE's mandatory retirement age and is said to have been pressing the company for some time to find a successor.