ments. Markey opposed this. As a consequence, the Rules Committee chose not to allow the legislation to go to the floor.

Reactor liability is expected to top the nuclear agenda for the House Interior and Energy and Commerce committees next spring. At issue are: periodic adjustment of the liability ceiling to account for inflation, a proposal that the Department of Energy's liability for mishaps related to government operated reactors be unlimited, and establishment of a "ready pool of funds" to cover accidents at DOE reactors. Also awaiting resolution are differences in the House and Senate approaches, including whether the Price-Anderson Act should be extended for 10 or 20 years. The law expires 1 August 1987, but the existing liability limit stays in effect until it is reenacted.

Uranium tailings. The Uranium Revitalization and Tailings Reclamation Act (S 1004) proposed by Senator Pete Domenici (R–NM) is dead. The bill would have provided a way to finance the disposal of almost 200 million tons of toxic mill tailings (*Science*, 9 August 1985, p. 537). The bill sought to distribute $2 to $4 billion in cleanup costs between the federal government, electric utilities operating nuclear power plants, and uranium producers. Although the bill passed the Senate Energy and Natural Resources Committee in mid-September, the effort to assist the foundering domestic uranium industry was stalled by a series of legislative holds placed on the bill by Senator Stafford and other members.

Previously, utilities have contended that they should not have to pay more for cleaning up tailings because that cost was incorporated in the purchase price charged by uranium suppliers. Nuclear utilities accepted Domenici's plan, however, because it would have slashed the industry's debt for uranium enrichment technology development to $350 million. The Reagan Administration says that the utilities really owe $3.4 billion.

Drugs. Drug export legislation passed Congress on the last day of the session. The bill (S 1744) is a major breakthrough for pharmaceutical and biotechnology companies. It permits the export of drugs and biologicals that have yet to receive Food and Drug Administration approval to 21 countries. The provision applies only to substances for which FDA approval is actively being sought.

Efficient appliances. After years of fighting the idea of minimum efficiency standards for appliances, manufacturers have finally rallied around the concept long championed by environmentalists. Appliance standards were required under the Energy Policy and Conservation Act of 1975. Final rules were supposed to have been issued by 2 January 1981. The deadline was not met by the Carter Administration, but final rules had been drafted. Reagan Administration appointees, upon taking over at the Department of Energy, stalled the implementation of regulations. Subsequent court decisions on litigation brought by the Natural Resources Defense Council, however, forced DOE to proceed with rulemaking.

The proliferation of standards within individual states such as California and New York, also has led industry to drop its opposition. New legislation (HR 5465) passed by the Congress in early October takes away states' rights to set standards that are more stringent than federal rules. The efficiency levels required for major appliances ranging from refrigerators to furnaces will be more stringent than any standard now in existence. But California had been planning even tougher rules. The federal law requires that by 1990 new appliances must be 15 to 25% more efficient than the average of same type of appliance sold in 1985.

Foreign students. Immigration legislation enacted by the Congress had educational groups such as the National Association of State Universities and Land Grant Colleges (NASULGC) worried about the availability of teaching staff in engineering and science. Until the bill hit the House floor, it carried a provision requiring foreign students upon obtaining their degree to return home for 2 years before returning to the United States. While the issue is dead now, it may be raised again next year.

Retirement ceiling. Legislation to allow people to continue working past age 70 also is causing a stir in the academic community. Under the bill (HR 4154) sponsored by Representative Claude Pepper (D–FL), colleges and universities are exempt from the provision for the next 7 years—meaning that they can continue to retire faculty at age 70. In the interim period leading up to 1994, the university community is expected to study the law's potential effects on attracting new faculty, the conduct of research, and the quality of instruction. Jerry Roschwalb, director of governmental relations at NASULGC, says that college administrators are worried. Without a mandatory retirement requirement, he says, the flow of new talent and ideas into American higher education could suffer.

Meanwhile, The Higher Education Amendments Act (S 1965) passed by Congress raises the annual ceiling on the Guaranteed Student Loan Program. Undergraduates may now borrow up to $2625, instead of $2500. Graduate students can borrow $7500 a year instead of $5000. ■

MARK CRAWFORD

Briefing:

Britain's Scientific Decline

Paris

Britain's scientific output has declined significantly in both quantitative and qualitative terms over the past decade as a result of continued constraints on government support for basic research, according to a report published last week by the Royal Society in London.

In solid state physics, for example, citations to theoretical work by British scientists in papers listed in *Physics Abstracts* dropped from 7.5 to 5.9% between 1977 and 1984, and to experimental work from 6.4 to 5.5%. In one extreme example, research in the class of magnetic alloys known as "spin alloys," the U.K.'s share of citations dropped from 20.5 to 3.2% between 1979 and 1983.

Analysis of data for all fields of science contained in the *Science Citation Index* showed British citations aggregated over four successive years falling from 10.9 to 8.9% between the 4 years up to 1976 and 1982 respectively. The number of citations per paper also declined over this period, while those to individual German, French, and Japanese papers were all increasing.

The Royal Society report, produced by its Policy Studies Unit, admits that, even in 1982, Britain was still ahead of these three countries in absolute terms. It also shows that in another specific field, namely genetics, British science appears to be maintaining its international position as second only to the United States, apparently contradicting a straw poll among 113 British and foreign geneticists which showed that only 10% felt Britain was still a world leader (although many now claim that the deterioration has largely taken place after the period covered by the study).

However, the report concludes that "across all fields the U.K. is producing fewer papers, and they are having less influence on average on other scientists." And it warns that this decline is reflected in the increasing number of prominent British scientists choosing to work in other countries.

The report was one of two commissioned by the Advisory Board for the Research Councils, the independent body which advises the British government on the level of research funds being provided to universities and research laboratories through the five research councils supported by Department of Education and Science, and how these funds should be allocated between the different councils.

The second report, produced by research-

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."

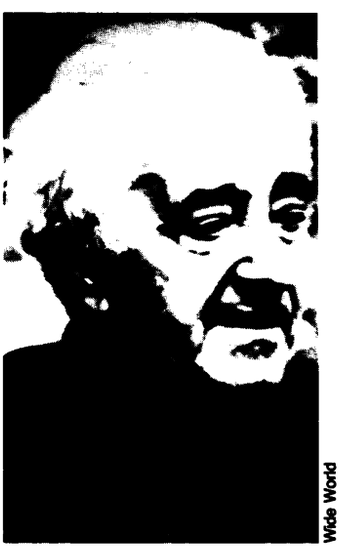
Plans for the creation of what will be known as City Technical Colleges (CTC's) were announced by the secretary of state for education and science, Kenneth Baker, during the recent annual meeting of Britain's ruling Conservative Party.

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.



Wide World

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 University, 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 "dismembered 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