Science in US Congress

Fair winds

Washington

The apparently pro-science and technology mood of Congress this session, particularly in matters involving private industry, is indicated in much of the routine business of bills introduced, of bills reported out of subcommittee (which means that a small number of congressmen agree something should be done), of bills reported out of full committees (which means that a larger group of congressmen agrees), and by bills actually voted by either the House or the Senate.

True, Congress is not rushing through sweeping reforms. Indeed, it is unlikely to do much — in terms of legislation passed by both houses that then becomes law — that will change the face of US science. The Republican party dominates the Senate; Democrats have a majority in the House. Democrats are preoccupied with the budget battle, while the Republicans tend to be thinking of the next election.

One measure with a chance of passing is a patent reform bill (the Uniform Science and Technology Research and Development Utilization Act or S. 1657 in the Senate). This would extend to most organizations performing government research the patent reforms enacted last year for small businesses, non-profit institutions and universities. It would also unify the patent policies of the various government agencies. The long-standing question has been when a researcher using government funds is entitled to hold the patents arising from the work, or when patent rights should go to the government department that sponsored the work. The present congressional mood includes greater consensus that federal shackles be removed, allowing researchers the greatest incentive to market their products.

Another bill, the Joint Research and Development Act (HR. 6262 in the House), is a response to the US high-technology industry's complaint that other countries allow industries to pool talent on research problems but that, in the United States, such pooling risks violating antitrust laws. The bill would allow the government's lawyers to issue a certificate permitting joint research and development in selected cases, and protecting the companies from antitrust prosecution.

The Senate has passed the Patent Term Restoration Act (S.255) whose counterpart is now in the House Judiciary Committee, but may not emerge before Congress adjourns in September. It tries to help industries that the government regulates to recoup more money from patents, to compensate for the costs of regulation. At present pharmaceutical companies file for a patent as soon as a new compound is discovered. The patent runs for 17 years, of which several are used to develop the compound into a marketable drug. Then the firm must file for permission to market from the Food and Drug Administration. By the time the drug is approved for marketing, which can take up to 10 years, the company has only a few years left in which to recoup its investment. The pharmaceutical industry claims that this delay can cost $70 million for a single drug. The new bill would extend the lifetimes of certain patents by up to 7 years.

In the Senate especially, legislators seem concerned with freeing industry and assisting US high-technology trade. A resolution has been introduced to guide the imminent talks in Geneva concerning the General Agreement on Tariffs and Trade (GATT), that refers specifically to US high-technology trade needs. Another bill, passed by the Senate, would fund a special clearing-house to help move the government's enormous store of technical information into the private sector. A further measure introduced in both houses would offer tax credits to manufacturers of computing equipment which give hardware to schools. The measure was promoted by one of the founders of the US home computer company, Apple Computers.

If sentiment were more like that of ten years ago, when faith in federal government intervention was far stronger, Congress might now be designing large federal programmes to "rescue" the US high-technology industry, or greatly increasing spending on federal research and development. Instead, there is a feeling that government is not very good at picking winners and that the congressmen want to encourage promotion of technology in the marketplace. This attitude, particularly prominent among Republican senators, is in contrast to past enthusiasm for heavy federal involvement and big government development and demonstration programmes. Basic research has benefitted from the change — both those who favour more federal intervention and those wanting to promote technology in the marketplace view basic research as an essential government investment.

Likewise, the cause of improving US science education in the schools has support from both sides. Senator John Glenn (Democrat), the former astronaut who has made science and technology a main plank of his political activities, has introduced a bill (S.2421) to set up a council in the National Science Foundation to suggest a cure for the "technological illiteracy" of the nation. It would be given $5 million to come up with the plan, and $50 million per year for four years to implement it. A similar bill has been introduced in the House by Don Fuqua (Democrat) and Doug Walgren (Republican). Neither bill is likely to get very far. But the momentum these congressmen are giving to the issue of science education may promote a change of heart from the Reagan Administration, until now opposed to a major federal role in science education. **Deborah Shapley**

Computers for free

The US computer industry is joining the ranks of those crying for improvements in education in science and engineering offered in US schools and colleges. As a result, the National Science Foundation (NSF) is expected to announce in early June that five computer companies will be donating many hundreds of individual computers to help solve the growing problem of "technological illiteracy".

It all began when two computer companies — as yet unnamed — each tried to donate 100 machines to NSF for distribution to schools. This gift, however, set NSF bureaucrats worrying whether it was legal to accept this largesse. As it turned out, NSF, unlike some other government agencies, has specific statutory authority to accept gifts that are for the purpose of furthering NSF's missions.

But NSF did not want to be seen to favour these two computer companies over any rivals for the honour of giving away their machines to the government. So they went through a moneyless bidding process, and invited gifts from all companies. Now, NSF sources say, five companies will be making the donations, although the terms, the nature of the hardware, and the insitutions they will be given to have not yet been revealed.

Why is the computer industry so eager to provide free samples to young people in the schools and colleges? One answer, of course, is that a student who learns an elementary computer tongue at school will outgrow it and ask for another model. Company sales would not be hurt. **Deborah Shapley**

British universities

More misery

Hopes that the British university system would be spared some of the government's economy measures were dashed last week, when the University Grants Committee made public the recurrent grants to individual universities for the academic year 1982–83. There is no substantial change from the provisional allocations of a year ago, although the University of Salford, one of the most seriously afflicted then, has been given an extra year in which to reduce its establishment.

The coming academic year will be the second of the three in which government subvention for the universities is to be reduced by 8.5 per cent. The sum now offered to the universities is, however, larger than the amount advertised last year because allowance has been made for inflation (4 per cent on salaries, 9 per cent on other costs) and because the University Grants Committee has been given more

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than £100 million extra to compensate universities for the reduction of fees for home students.

For many British universities and academics, last week's announcement will seem to bear directly on the pay negotiations now under way between the universities and university teachers, represented by the Association of University Teachers. For the grants committee's letter does formally confirm the UK government's intention that the university grant for the coming year should include only 3 per cent for salary increases. While there have been some suggestions, at the University of Aberdeen for example, that academics might forgo pay increases in the present round of pay negotiations, the union nationally is asking for 14 per cent, 12 per cent to compensate for price inflation in the past year and 2 per cent to make good the erosion of academic pay.

The allocation of funds for the coming academic year has apparently been made in the light of universities' accounts of how they plan to adjust to falling budgets. The grants committee is apparently planning to keep back some £20–30 million of the total government grant to finance the more interesting of universities' intended innovations. The new letter to universities pleads, however, that universities having to reduce costs should not take the knife to easily eliminated but academically important minority departments.

The committee has also shared out among its dependent universities the annual government grant for equipment and furniture, fixed last month at £83.6 million. While the Department of Education and Science said last week that the grant is "consistent with the aim of maintaining standards . . .", the grants committee seems strongly to hold that the grant is at least one third too small.

For the more distant future, the grants committee seems to expect that there will be a return to "level funding" after the present contraction is over in 1983–84, but does not know whether the provisional budget for 1984–85 published in the government's expenditure white paper in March will be adjusted upwards if inflation exceeds the supposed 5 per cent a year.

The grants committee itself plans to spend much of the coming year studying possible changes in the social function of universities, especially in continuing education. It remains unclear what will befall those universities which fail to meet the grants committee's targets for reduced student numbers by the end of 1983–84. The sentence in last year's letter suggesting that universities failing to meet their targets would be penalized is not echoed in those sent out last week, but the committee is apparently guessing that if the government should be disappointed with the universities' performance, and should cut the total budget by the extra cost of student maintenance, the budgets of the universities responsible will also be cut.

London medical teaching

Merger fever

While the rest of the University of London continues to agonize about its future, the undergraduate medical schools are at last beginning to implement a plan designed to save 10 per cent of the university's medical education bill by 1983–84. The outlook for dental education also looks brighter since the five dental deans recently agreed to move the school at the Royal Dental Hospital from its premises in Leicester Square to one of the university's four other dental schools. But the future of the postgraduate medical institutes, whose finances have been particularly badly hit by the shortfall in the number of overseas students, will not be tackled until July.

After almost two years of often bitter wrangling, the undergraduate medical schools, collectively the largest source of trained physicians in the United Kingdom, finally agreed on a plan at the end of last year. The dispute began after a committee chaired by Lord Flowers, rector of Imperial College, recommended at the beginning of 1980 that the university's 34 medical and dental institutions should amalgamate into six large conglomerates.

That debate was overtaken by events. The government's announcement at the end of 1980 of large cuts in university education concentrated minds. The plan adopted was designed to increase opportunities for pre-clinical students to choose between medical and multi-faculty schools, and provide access to certain major disciplines, clinical pharmacology, therapeutics and community medicine.

Three of the medical schools, those at the Royal Free, St George's and St Mary's hospitals, are to remain much as they are. The others are to form some type of association either with another medical school or with a multi-faculty college. Thus the medical schools of Charing Cross and Westminster hospitals are to merge. So too are those at the Middlesex Hospital and University College. The schools at St Thomas's and Guy's hospitals are to form a united medical school next autumn and those at St Bartholomew's and the London hospitals are to work towards formation of a joint school. The school at King's College Hospital is to be administered from King's College in the Strand.

The outstanding problem is whether the plan can be implemented in time to make the necessary savings. Schools that must merge will be combining courses, departments and administrations and reorganizing accommodation. St Thomas's and Guy's hospitals, however, will retain their separate schools but merge administration.

The merger of the London and St Bartholomew's schools will take longer. The promise by the University Grants Committee to finance new accommodation for the joint school at Queen Mary College, a multi-faculty institution, still stands. But the grants committee is now looking for existing buildings which may become available when Queen Mary College has itself trimmed its operations to match its reduced grant.

The reorganized medical schools will be expected to maintain their aggregate student population. But the reorganization alone will not by itself yield the necessary savings. So student:staff ratios are to decline from the present 1:7.4 in pre-clinical studies to 1:10 by 1983–84 and from 1:6 in clinical studies to 1:7.

Judy Redfearn

Polish sciences

Nothing to read

Poland's endemic hard-currency problems are posing a major threat to Polish science. The purchase of Western scientific journals is virtually impossible, and according to the Warsaw daily *Zycie Warszawy*, last year no subscriptions were paid to foreign suppliers at all, so that by October the country had run up a debt of about US$8 million for journals supplied against invoices.

This year, some $5 million have been allotted for the purchase of journals, but this is only half the quota for 1980 and less than 20 per cent of the 1978 level. Polish scientists have had to resort to various stratagems to keep up with their reading. Photocopies of *Current Contents* were displayed on the noticeboards of institutes and universities and scientists requested a photocopy of articles they required from the Academy of Science or else through interlibrary loan. Martial law, however, meant that very tight security controls were imposed on photocopiers, lest they be used for the production of protest leaflets.

At the same time, their other main source of new publications — offprints and duplicate copies of journals requested from foreign colleagues — has been considerably reduced. Under martial law, the mails are considerably delayed by the censorship, scientific visits to and from Poland have been significantly curtailed, and many Westerners are apparently disinclined to send material to their Polish colleagues for fear that journals arriving from abroad might attract the attention of the security authorities.

So far, little has been done abroad to relieve the situation. The British Council has allotted £25,000 for the purchase of journals for Polish academic institutions; in the United States, however, the view is by no means unanimous that aid would be proper until martial law comes to an end.

But to Polish scientists the situation is a matter of intellectual survival. Letters to Western colleagues emphasize that without an emergency supply of journals to tide them over the current crisis, Polish scientists will rapidly fall behind the world scientific community, and catching up, when dollars become available again, will be virtually impossible.

Vera Rich

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