Industry funds in universities

New guidelines emerge from Pajaro Dunes

Washington

Universities should only accept research funds from private companies if secrecy is kept to the absolute minimum necessary for patent protection. At the same time, companies which fund such research should normally be entitled to receive exclusive licences on any useful results that emerge, at least for a period sufficient to prevent rival companies from unfairly exploiting the same research.

These were two of the principal conclusions to emerge from a three-day meeting between the presidents and selected faculty members of five top US research universities, and senior executive officers of ten leading biotechnology companies, held at the California coastal resort Pajaro Dunes at the end of last week.

The conference had been organized largely at the suggestion of Dr Donald Kennedy, president of Stanford University. Its main purpose was to discuss a range of controversial issues that have emerged over the past few years as universities have looked to industry as an alternative source of research support from the federal government and have increased their efforts to push research results into the market-place. Companies in turn have been turning their attention to the frontiers of biomedical research in their quest for new and improved products and industrial processes.

Others attending the conference included the presidents of Harvard, Massachusetts Institute of Technology, University of California and California Institute of Technology. Each had been asked to invite one university administrator, two faculty members with direct or indirect experience of dealing with outside companies, and two senior executives from companies with experience of sponsoring university research. The companies represented at the meeting included Beckman Instruments, Syntex, Cetus Corporation, Applied Biosystems Inc., Gillette Corporation, Eli Lilly, DuPont and Genentech.

Dr Kennedy stressed after the meeting that the purpose had not been to agree on rigid rules that should apply to each university, but rather to work out what he described as a "framework for future relationships between universities and industry". Faculty members at several of the universities represented at Pajaro Dunes had already indicated their concern that it should be left to each university to decide how broad principles should be interpreted into policy — a policy that last week's meeting was quick to endorse.

Nevertheless, criticism that the conference had been limited to senior administrators and scientists on both sides was expressed in a letter to the participants signed by 25 scientists at research universities across the country, as well as several prominent union and consumer spokesmen such as Anthony Mazzochi of the Oil Chemical and Atomic Workers, and Ralph Nader.

The letter invited the participants to attend a second conference later this summer, at which the same topics will be discussed but primarily from the point of view of groups both within and outside universities which felt they had been unfairly excluded from last week's meeting. The letter quoted from the final speech delivered by President Eisenhower, in which he criticized not only the growing power of the "military-industrial complex" but also the danger that important policy issues were increasingly being decided by a scientific and technical elite, rather than through open democratic processes.

Dr Kennedy has already agreed to take part in this second conference. He also said on Saturday that he would help the organizers of the conference to raise the necessary funds.

The Pajaro Dunes meeting produced agreement on an 11-page statement which set out some principles as a basis from which individual universities can develop guidelines and codes of conduct. The statement stressed, for example, that although links should be encouraged between faculty members and outside companies since these were considered mutually beneficial, "professional relationships with commercial firms should not be allowed to interfere with responsibilities for teaching and research".

The statement also said that in general it was not appropriate for universities to own substantial equity in companies which were staffed by their own faculty members. This is a sensitive point at Harvard, which

Flying start towards French law

The proposed French "research law", on which many of the plans of the minister for research and technology, Jean-Pierre Chevènement, depend, has cleared its first hurdle with a flying leap. The Economic and Social Council — a kind of litmus paper of the French nation — was not satisfied with giving mere approval to the law last week. Rather, it rearranged and added sentences to the draft bill to stress the significance of the new plans for France, indicating that they must be considered to be political priorities.

This is no slight thing, as the finance minister, Jacques Delors, recently put all spending ministries (including Chevènement's) on a tight rein. Something like a quarter of the new money offered to laboratories by Chevènement has had to be frozen, despite the minister's strong opposition. But, says the Economic and Social Council, "expenditure on research and development must escape, so far as is possible, from the present economic difficulties".

Money was not the only thing the council had in mind. Its members considered that the links between research and education need to be tightened; and so the council added phrases to the law which imply that Chevènement and the minister for national education, M. Alain Savary, must get together quickly to work something out, before Savary presents his own law to parliament in the autumn.

The council also stressed regionalization, sharpening the definition of the proposed "regional consultative committees" on research and technology. It suggested words guaranteeing the mobility of personnel, and, in particular, emphasized the use of the French language in science. The use of French is "a fundamental objective" said the council, but admitted that it would be difficult to achieve. The research law should define a precise strategy, and the ministry should keep the council informed of progress on this issue, the council requested.

The broad support of the council for the research law will be welcome and significant, because the council is an important — if unusual — constitutional body. Its 200 members are drawn from all walks of life, but particularly from the working classes (as 140 members are supported by trades unions); and it gives its opinion and advice on such matters as are referred to it by the prime minister, or on matters that it chooses to study on its own behalf. Its advice is usually taken before major bills are put before the National Assembly, and although the advice is not binding, it would be politically inept to ignore it. Moreover, since the unions are strongly represented on the council, and since the same unions have a strong influence on the present socialist government, the council might be thought to have more weight than it had in the past.

The next ports of call for the draft law will be the Council of State (to check legality), the Council of Ministers (for final political approval by the government), and ultimately — perhaps by early summer — the National Assembly for parliamentary debate, and, if successful, passage into law.

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eighteen months ago backed away in the face of a flood of national publicity from a proposal that it should share the equity in a company being set up by members of its department of biology.

Both university and industry representatives agreed that research agreements should require the minimum amount of secrecy, and that in general university scientists working with industry funds should retain full rights of disclosure on their research results.

One controversial topic which was discussed at the meeting was how to avoid potential conflicts of interest when a university scientist is involved with both university and private research teams working in closely related fields. The participants agreed that universities should be encouraged to draw up explicit conflict-of-interest rules, and also that any research agreements with private companies should not "impair the education of students, interfere with the choice by faculty members of the scientific questions or line of inquiry they pursue, or divert the energies of faculty members from their primary obligations of teaching and research".

There was apparently more disagreement on whether it was appropriate to grant companies which sponsor university research an exclusive right to use the results of that research. Some participants argued that this was going too far, and that although the company should be offered a royalty-free licence, the patent should also be offered to others at the same time. Some argued, however, that non-exclusive licences would discourage companies from developing a new product, and that an exclusive licence to the results was an appropriate *quid pro quo* for research support. If exclusive licences were not permitted, companies might be reluctant to support university research, said President Derek Bok of Harvard University.

The meeting had been described as "Asilomar II", a reference to the 1975 meeting on the safety of recombinant DNA research which took place a few miles away from Pajaro Dunes. Just as the earlier meeting had provided the basis for the subsequent development of the safety guidelines on DNA research, Dr Kennedy said after last week's meeting that it had marked the beginning of an attempt to establish a national consensus on guidelines for collaboration between universities and industry.

News of the new guidelines, however, is likely to evoke just as much controversy as the original Asilomar document. Graduate students at Stanford have already organized a series of meetings to discuss their perspective on the impact of the new university/industry links (*Nature* 25 March, p. 283). The Pajaro Dunes meeting had defined the arena in which future debates between supporters and critics of close university/industry links will inevitably take place. **David Dickson**

Polish science

Travelling again

A few Polish scientists are now arriving in Western laboratories and universities to take up exchange places arranged before the imposition of martial law. The delay in their arrival has not been due simply to the general confusion following the army takeover; they bring with them news of emergency regulations for scientific trips, which demand, in particular, that any such trip must be "closely in line with the aims of the foreign policy of the Polish People's Republic and the socio-economic and scientific policy of the country".

Under these emergency regulations, any proposed trip must be submitted for detailed analysis by the director of the institute or rector of the university where the applicant works. This has to take into account not merely the scientific purpose and the cost-effectiveness of the trip (especially as regards foreign currency), but also whether or not the applicant can be guaranteed "to represent the political interests of the Polish People's Republic". In particular, trips will not be authorized for persons "who have actively worked to the detriment of the state, or who have broken the regulations of the decree on martial law". (This clause, if strictly applied, would exclude scientists working in several institutes of the Academy of Sciences, the Swierk nuclear research institute, and other academic establishments which responded to the imposition of martial law by protest strikes.) Relatives of scientists already working abroad will not be permitted to join them, although it is not made clear whether this is simply due to the shortage of currency, or whether it is intended as a means of ensuring that the scientists concerned will return at the end of their tour of duty.

Preferential treatment, it seems, will be given to long-term exchanges, especially if they are concerned with research into subjects of particular significance for the Polish economy, and if the proposed visit is to a "leading" scientific institution abroad where the scientific and practical reward is self-evident. Visits planned under existing exchange agreements and contracts for visiting lecturers will also be given a more favoured status, while the officials of international scientific societies, and academics invited to take the chair at international congresses and symposia (if not otherwise disqualified) should be enabled to travel "in order to facilitate the participation of Polish scientists in leading international scientific events".

Students, on the other hand, are to have their applications "delayed", except for students studying at universities in socialist countries on the basis of international agreements, and students sent abroad by the Ministry of Science, Higher Education and Technology for one- or two-semester "short courses". The same delaying process is to be applied to researchers wishing to go abroad to collect archive material, consult with their colleagues on "non-priority" matters, or to take a "passive part" in an international conference. **Vera Rich**

Universities in industry

Imperial goals

Imperial College in the University of London has set up a manufacturing company with venture capital. The college, which is providing the facilities for the new company, will share the equity equally with Technical Development Capital Ltd (TDC), a subsidiary of the Finance for Industry Group, which is putting up £400,000 as initial investment. Imperial Biotechnology Ltd, as the new company is called, will use the college's pilot fermentation plant to manufacture purified enzymes, proteins and specialized fermentation products. These will be used mainly for the chemical and pharmaceutical industries.

The new company is primarily intended to provide a solution to the college's recent difficulties in funding the fermentation plant, which is housed in the biochemistry department. Although the plant had been earning contract money, the college could no longer make up the running costs out of central funds. It is hoped that the new company will be at least self-financing, eventually achieving a turnover of a few million pounds per year.

About twenty staff working with the fermentation plant will be transferred from the college payroll to that of the new company. They will retain their existing commitments to teaching and research. Management of the plant, however, will be transferred from Professor Brian Hartley, head of the biochemistry department, to a new management team appointed by TDC. Dr Trevor Langley, formerly with Whatman Biochemicals Ltd., has been made managing director of Imperial Biotechnology Ltd.

Professor Hartley, a critic of the government's unwillingness to support more biotechnology posts in British universities, plans to use some of the money released by transferring staff to the company payroll to establish two new academic posts in the Centre for Biotechnology which he is at present establishing.

Imperial Biotechnology Ltd will operate much as any other company, using profits to finance expansion. It will, however, benefit from its position on the college campus by maintaining close links with research. Professor Hartley, who has links with the Swiss company Biogen, will also be scientific adviser to the new company. He sees no conflict of interest.

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