

twenty different countries, which involves a waste of time and money and which has resulted in a backlog of several years' work in most patent offices. Since the early sixties, the possibility of creating a single European patent law has been discussed, one of the problems being to find an acceptable compromise between the different types of systems. In Britain and West Germany, for example, there is a full examination and a chance to raise objections before any patent is granted, while in France patents are simply registered without testing or approval.

A draft convention was in fact published in 1962 by the countries of the EEC, but its adoption was held up by the Dutch refusal to go ahead unless Britain and other countries were included. Under the terms of this convention, provisional patents are granted once an invention has been shown to be novel, but it has to be more carefully examined before a final patent is granted. Any patent lapses after twenty years. One interesting clause states that no patents can be granted for plant and animal varieties or for biological methods of producing plants or animals. The latest memorandum, approved at the Council of Ministers meeting at the beginning of March, is based on this draft convention.

In line with the EEC's decision last December (*Nature*, 220, 1268; 1968) to invite outside countries to collaborate with the Common Market countries in well defined fields of technology, seven countries—Austria, Denmark, Ireland, Norway, Sweden, Switzerland and Britain—are to be included in the invitation to discuss the proposed system. Ministerial talks are expected to start soon, according to a spokesman from the European Economic Community.

UNIVERSITY ENTRANCE

Where the Students Go

THE number of overseas applicants for places at British universities in the academic year 1968-69 fell by 20 per cent. At the same time, admissions in science and technology from home and overseas fell short of estimates by almost 1,200 and in medicine and dentistry the shortfall was 295, according to *The Sixth Report of the Universities Central Council on Admissions* (UCCA, 8s). The drop in overseas candidates from 9,643 in 1966-67 (9 per cent of the total) to 7,704 (7 per cent of the total) no doubt reflects the rise in fees for overseas students from £70 to £250. The first preference of overseas candidates, however, remains much the same as in the previous two years and follows an interestingly different pattern from that of home students (Table 1).

Table 1. PREFERENCES OF HOME AND OVERSEAS STUDENTS, 1968

Subject	Home students		Overseas students	
	Preference order	%	Preference order	%
Engineering and Technology	4	13.8	1	31.0
Science	2	20.1	4	8.2
Medicine	5	7.9	3	22.3
Social Studies	1	28.9	2	24.5
Languages	3	15.0	5	5.5

Table 2 shows the actual number of first year students admitted by all the universities for October 1968. The shortfall in science and technology, which reflects a shortage of suitably qualified applicants, and the surplus of students admitted in the social sciences has become almost a traditional feature of British universities, but the surplus of social science places was smaller than in 1967 when admissions exceeded estimates by 563. As in previous years, there was a surplus of suitably qualified candidates in the arts, social sciences and medicine.

Table 2. ACTUAL AND ESTIMATED ADMISSIONS TO UNIVERSITIES BY OCTOBER 1968

Subject	Admissions	Estimate as of May 1968	Surplus and shortfall
Education	872	77	+101
Medicine	4,564	4,859	-295
Engineering and technology	9,902	10,357	-455
Science	15,208	15,946	-738
Social science	12,202	11,779	+423
Agricultural and veterinary studies	1,146	983	+163
Total, all subjects	58,481	59,583	-1,102

The UCCA clearing operation for candidates not accepted to begin with involves 21,347 candidates. Of these 9,190 were considered by UCCA to stand a chance of getting a place and were referred to the universities. More than half of them were dealt with after September 4 and by October decisions on all had been received from the universities. Altogether, 4,564 were accepted. The competition in the various fields is clearly reflected by the proportion of applicants accepted in the clearing operation. In medicine, for example, only 293 out of 1,154 applicants were placed, but in physics, chemistry and mathematics, about a half were found places. The number of candidates applying for universities through UCCA continues to increase. Since 1965 the number of applicants has risen by about 10,000 a year to 110,400 in 1968 and 53,644 were admitted. But during the three years 1966-68, the proportion of men and women, 70 per cent and 30 per cent, has remained constant.

NUTRITION

Unfed to School

THE House of Lords discussed on March 11 the possibility of a research project on malnutrition among schoolchildren, largely on the basis of a report by Dr G. W. Lynch of Queen Elizabeth College which suggested that many children are too undernourished to concentrate on their school work (*Medical Officer*, January 24, 1969). Dr Lynch's studies have revealed that many children in London eat nothing for 18 hours of every school-day. Twenty-five per cent of a sample of eighty children between 9 and 11 went to school without breakfast. Parents seem to assume that children eat a substantial lunch at school, but children tend to refuse to eat some school food, particularly vegetables.

It now appears that the Ministry of Health does not consider "that any change is required in the Government current programme of research and investigation". This programme includes a study of the nutrition of some 1,500 children in Kent and a study in some other not yet determined part of England which is planned to start in October. The Ministry says that "cost is not the limiting factor" but that the problem is to find well qualified personnel. The Kent survey was begun in May 1968 and should be completed by September 1970, but has produced some results already. In one study of more than 100 children, 19 girls and 9 boys go to school without breakfast. The boys who do not eat breakfast, though thinner than their class mates, seem not to be any less well grown, while the girls who skip breakfast are on the whole fatter than those who eat before going to school. This prompted from Baroness Serota the remarks that "the interpretation which Dr Lynch has placed on his figures is not the correct one".

TECHNOLOGY

Profit from Technology

from a Correspondent

ONE hundred and sixty delegates—many of them research or technical directors—attended a conference on the management of technological innovation held in Harrogate on March 12 and 13. Organized by the Management Centre of the University of Bradford in conjunction with the Ministry of Technology and *Management Today*, the conference focused on two aspects of the innovative process which are of particular interest to industrialists: the effective harnessing of technological advances in the creation of new products, and the adoption of an organization which is not only receptive to new ideas but can also carry them through the innovative phase to commercial exploitation.

The first day was devoted to an examination of the relationship between the company and the technological environment. The importance of relating the development of new products to a company's corporate planning and its skills and resources was underlined by several speakers. A vital link is the anticipation of consumer needs up to 25 years ahead for a product which could take 10 years to develop and should have a useful life of 15 years. The importance of good management was a recurrent theme.

Mr John Duckworth, managing director of the National Research and Development Corporation, suggested that most companies usually know what is in their own best interests. Unfortunately, their environment—particularly the taxation system—often makes it undesirable for them to follow the higher risk programmes of innovation which would be in the country's interest; the rewards are too low for the risks involved. A survey by the Organization for Economic Cooperation and Development was cited as confirming the existence of a "management gap". Mr Duckworth attributed a great deal of the success of American companies to their strategies for technological innovation on a world-wide rather than a national scale. Of three possible strategies—offensive, defensive and absorptive—the offensive was most likely to succeed in foreign markets.

On the second day, speakers looked at the problems involved in designing an organization for effective innovation. Dr Leach from McKinsey and Co. Inc., warned that the organizational structure of a company must be related to its own needs; there is no universal solution. Nevertheless, companies can identify and eliminate major sources of potential conflict; one way of doing this involves an analysis of the key variables which make up the firm's "technological profile". Several speakers saw the role of the entrepreneur as vital in the link between invention and commercial success. It was even suggested that too much money is being devoted to research rather than commercial exploitation. Risk is inherent in all new ventures but, as for the large companies, the individual entrepreneur is often deterred by the poor rewards for success which are incommensurate with the risks involved.

Dr Cohen described how the management venture at du Pont de Nemours has enabled a large company to foster an entrepreneur and benefit from the flexibility of decision making—a feature usually enjoyed only by small organizations. Research by James Bright of the Harvard Business School suggests that the innovative chain now spans about a quarter of a century. Companies concentrate their project evaluations in the technological and economical areas, but the secret of success often depends on political and social factors which tend to be ignored.

PLANNING

Trees in Danger

from our Planning Correspondent

IN spite of a four-year campaign, countrywide protests and a House of Commons motion signed by more than 100 Members of Parliament, part of the 250 year old avenue of oaks in Levens Park, Westmorland, may after all be destroyed to make way for the Kendal link road to the M6 Motorway. All the signs suggest that the Ministry of Transport will reject the alternative route for the road prepared by Mr Robin Bagot, the owner of Levens Hall. The Westmorland County Council has decided not to dissent from the present plan. So far, the Ministry of Transport has refused a public inquiry, although the Minister, Mr Richard Marsh, visited the park on March 3. The ministry has promised that great attention will be given to the landscaping of its road, and it may be some comfort to the campaigners that members of the ministry's landscaping advisory committee have decided "in view of the present controversy" to visit the park (their first visit since 1963), very probably during the second week of April.

The park, still in private hands although freely open to the public, is the oldest landscaped park in England. It was designed in the 1690s by Guillaume Beaumont, said to have been trained at Versailles and brought to England to work for James II. He also created the famous topiary gardens which the family has had meticulously clipped ever since.

The main feature of the park, which encloses the River Kent for over a mile upstream from the house, is its 2,050 yard avenue of oaks of the species *Quercus sessiflora*, a rare variety with a normal life-span of 1,000 years, so that they are not yet in their prime.