

Finland

Public confidence in science is reviving

LAST week, Finland's Swedish-language technological society, the Tekniska Förenigen 1 Finland (TF1F) held a panel discussion on the country's energy policy as part of the centenary celebrations of the society's foundation. According to Erik Moring, the president, of TF1F, the holding of this discussion, between five of the country's leading experts from both the government and private sectors, reflect the general theme of the year's celebrations — to show the country that scientists and technologists are not "some sort of monster."

The TF1F celebrations, with their strong emphasis on the best use of Finland's natural resources for the good of the country as a whole, coincide with Finland's current "environmental year", and a general swing of public opinion away from the strongly anti-science bias of the mid and late 1970s. On 8 February, the Social Democrats (the largest single party in the Finnish parliament) called for a major investment in science and the creation of 300 new research posts. A few weeks previously, Finland's highly charismatic president, Urho Kekkonen, called for a reassessment of R&D investment and the expansion of research facilities — the first time that the president called so directly for a boosting of science since 1964.

The result that previous appeal was a major reorganisation of research planning, leading in 1969, to the foundation of the Academy of Finland, which, in spite of its name, is essentially a system of research councils and of government science funding. When the Academy put forward its five proposals for increased government science funding as "areas of emphasis", these had a strong bias towards the social sciences: environment, work and working conditions, public health, basic necessities of the population and living conditions, and the implementation of democracy and equality. It was this last project that, in the opinion of many Finnish scholars, led to the breakdown of public confidence in science planning.

Undoubtedly the project did provide a vocal focus for grievances. According to its opponents, the results of the research were widely politicised by the left. A nationwide debate sprang up in the press causing considerable disillusion among the public. The academic professions, which increasingly tended to range themselves against the Academy, had, however, other complaints.

During the past 25 years, Finland's general policy of decentralisation has increased the number of the country's universities from two (Helsinki and Turku)

to 18 (the last of which, the university of Lapland, was founded in 1979). Some of these are genuine new foundations, others are upgraded/former specialist or teacher-training colleges (e.g. the University of Jyväskylä). This proliferation was, to a large extent, necessary to prevent a permanent brain-drain to the south-west of the country.

However the expansion has left Finland, like many industrialised countries, with the problem of a very slow turnover of research staff in universities and few opportunities for new graduates who wish to stay within the Finnish academic structure.

An even more bitter cause for resentment, however, was the government regulation of the 1960s codifying and standardising the granting of academic degrees. This was, not surprisingly, seen as an encroachment on academic liberty, particularly since Finnish tradition followed the 19th century German ideal of

This laboratory was established by Professor Olli Lounasmaa in 1975 on the principal that low temperature physics is one of the frontier areas still within range of the Finnish budget. At present the laboratory holds the record of 50 nano-Kelvins (using a copper nuclear spin system). One byproduct of this work is the development of SQUIDS (superconducting quantum interference devices) to produce magnetic shielding. A magnetically shielded room is now under construction and an international seminar is to be held in May for potential users of what Professor Lounasmaa describes as "this rather expensive facility which will incidentally, be paralleled only by one under construction in Berlin."

Professor Lounasmaa's expertise in planning the laboratory has led to his being appointed head of a new working group to advise the government on the funding of basic research. Finland, he told *Nature*, has a very small bureaucracy. A scientist can therefore hope to obtain funds without too much red tape. Also, although the country has no long tradition in science, the general public, he says, has on the whole a high esteem for science. The disillusion of the last few years is not, he feels, significant in the long run.

Certainly one can find numerous examples in Finland of public confidence in science. Last autumn, the leading Finnish daily, *Helsingin Sanomat* celebrated its ninetieth anniversary with a special series of articles on science — which, in the opinion of Dr Elizabeth Helander, research director of the Academy of Finland, is the principal cause of the recent public change of heart. Some such gestures have involved considerable sums of money. In 1967, to mark the golden jubilee of the country's independence, the Bank of Finland set aside securities worth 300 million FM (\$45 million) whose interest would be used to fund loans for R&D expenditure in the private sector. Some considerable financial daring is also involved in two new publishing projects. One, proposed by the Academy of Finland, is the publication of a new popular science journal which is expected to become financially independent within three years. The other is the publication of a five volume full colour encyclopaedia of Finnish wild life (the first ever such work), which is expected to sell 10,000 at 1600 FM (\$220) the set. In a country of 4.5 million inhabitants and with virtually zero prospects of foreign sales, these figures assume that one household in ten throughout the nation contains at least one science enthusiast.

Vera Rich



"He's our local science enthusiast!"

university autonomy. One result was the establishment of the independent 'Foundation for Research in Higher Education and Policy', an organisation at present smarting under the latest OECD report which described it as a protest group of outraged academics. This, its spokesman, Dr Juha Vuorinen told *Nature*, is simply no longer true. "We are now cooperating much more (with the government) and the political issues are not so hot. What we are trying to do now is to influence the government to give more money to research. Research must be led by experts, not bureaucrats".

Certainly there are fields in which Finland is capable of taking a lead position. One is nitrogen fixation, traditional since the time of Professor Virtanen, who received the Nobel Prize in 1945. Another is the ultra-cold laboratory of the Helsinki University of Technology at Otaniemi.