

Denmark: Influence beyond its size

DENMARK, perhaps the most optimistic of all the Nordic countries, and certainly the most cheerful, has no inhibitions about its ambitions for the future. A year ago, the Ministry of Education and Research gave it as the government's intention to create a number of research institutions "among the foremost of their kind" and to have "only research institutions of international quality".

There is nothing startling in a small country seeking to have a few outstanding laboratories, of course. The remarkable feature of the Danish claim is that they wish to have none others. Is that possible? People such as Peder Olsen Larsen, chairman of the Danish National Research Foundation, and Knud Larsen, who looks after research for the Ministry of Education and Research, insist that it is.

How can a small country be so ambitious? Danes are quick with easy answers, one of which is historical. Did not Tycho Brahe work in Copenhagen? Then there were a string of more recent innovators beginning with Berzelius and including Niels Bohr. Denmark reckons to have done well in attracting people of daring.

Denmark also has going for it, the research managers say, its habit of collaboration and the much extended scope for collaboration provided by the framework of the European Communities. Danes individually may be apologetic that Denmark fired the first substantial shot across the bows of the Maastricht Treaty last June, and remarkably shy of saying how they voted, but their enthusiasm for the European venture seems

entirely undimmed.

Several at an informal gathering of senior scientists argued that the opportunities for collaboration are now much more interesting than in the years immediately after the Second World War. Then, strictly Nordic collaboration was pushed hard, but the most ambitious and promising graduate students and postdoctoral fellows went off to the United States. Now, people say, European laboratories are often as powerful a magnet.

Denmark also offers the benefits of a conservative and largely rural society, relatively low costs and a polyglot population drilled in speaking English.

Denmark's science is thus still on a rising curve of support from public funds. (Total spending last year was DKr5.91 billion, including ministerial support for applied research.) Although the total is expected to decline in the three following years, the proportion of total funds directed to basic research of various kinds is likely to become greater.

But a small country cannot do everything. That is why Denmark has set out deliberately to choose priority areas that will concentrate both teaching and research in fields reckoned to be productive. Perhaps inevitably, one of these is biotechnology. Since the beginning of 1991, four of the six research councils (those for natural science, health science, agricultural and veterinary research and technical research) have jointly spent DKr456 million on research projects at university laboratories and elsewhere.

The expectation is that universities and other organizations participating will

eventually find the costs of the infrastructure they have created from other sources.

The biotechnology programme is claimed to be a model of how to kick-start an area of research. First, there has to be some kind of tradition (food processing and breweries), interested people (the universities were full of them in the mid-1980s), the promise that a local industry would be interested (almost self-evident in Denmark) and the prospect of collaboration with other organizations elsewhere. In the Danish fashion, the question "should there be a biotechnology programme?" was endlessly discussed in advance, notably by the research councils, the universities and the Danish Science Policy Council. From the outset, it was recognized that external evaluation half-way through the programme was an essential. Now, Denmark is slowly silting up with mostly favourable but often bulky evaluation reports from groups of outside experts from Japan, the United States and elsewhere in Europe.

Denmark is by no means a pioneer in the use of foreigners for research evaluation but it is uncommonly comfortable with the procedure. Academics say that they find these reports genuinely helpful, both in drawing attention to the scientific importance of what their projects are about but also politically, by reminding political paymasters that others find their work worth studying. But the practical value of a supportive report is that it can draw attention to deficiencies of funding or other means of support that Danish authorities have heard before but are

Universities look forward to more autonomy

ACADEMICS like to think that even onerous laws do not cramp their style, which is the spirit in which people from the universities of Copenhagen or Aarhus say the 1972 university reforms made little difference to their ways of working. Students may have been empowered to take a part in university government, as were members of the nonteaching staffs and their trades unions. "We know that these things happen", seems to be the message, "but we are reasonable people here and have never had any trouble." That may be the truth, but it can be only a part of it. Before the early 1970s, Scandinavian countries did not have university legislation, but only universities. The arrangements made uniform in Denmark in 1972 did not merely codify the management of universities, establishing the

rights of departments and faculties against their university at large, but also gave the government powers of direction in matters such as the filling of vacant positions and the continued existence of particular research institutes and departments.

As in much of the rest of Europe, the interval since the early 1970s has been an often unhappy one. At some institutions, the Copenhagen Polytechnic University for example, the decentralization of authority seems to have been a continuing source of friction. Elsewhere, over two decades or so, the universities and the government have found themselves unpalatably at the opposite poles of arguments about vacancies left unfilled. Simple reorganizations within universities have often required too much negotiation without the outside. And the

universities became resentful of the government's pursuit of free access by students without consulting academics.

The result is the new law now widely discussed. Universities will acquire again some of the autonomy that they complain they have lost. As part of the reorganization, groupings together of previously separate departments have been agreed, as have understandings that it will be for the universities themselves to decide which vacant posts to fill. Every institution appears to believe that the future is likely to be better than the past, and even the Copenhagen Institute of Technology — which is the Danish university recruiting uniformly across the country — is uneasy that some of its members may oppose the new law. □