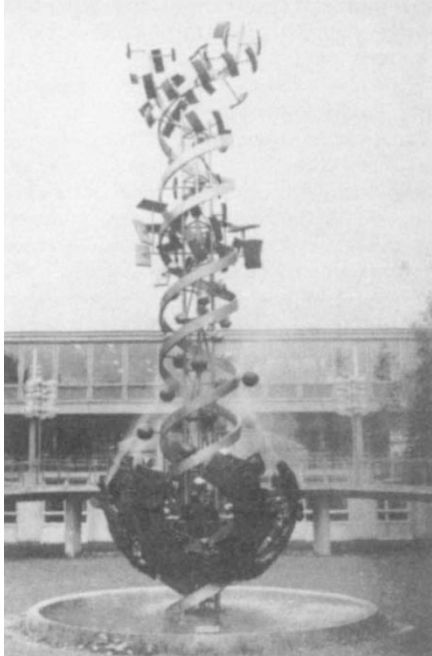


## Uppsala University

FOUNDED in 1477, Uppsala University is the oldest in Scandinavia and boasts such scientific luminaries as Carl von Linné — better known as Carolus Linneaus — Carl Wilhelm Scheele, Olof Rudbeck, Anders Celsius, Anders Ångström and half a dozen Nobel laureates. Like other ancient universities, it is also blessed with the ownership of some estates that used to provide its main income but now contribute a small, but useful, 2 per cent of the total.

With 15,000 undergraduates and at least 2,500 postgraduates, the university offers the full range of academic subjects and has the largest mathematics and natural science faculties in the country. It also has a vast Biomedical Center (BMC) built between 1968 and 1984.

Occupying about one third of the floor space of the whole university, the BMC



The DNA fountain that symbolizes much of the research at Uppsala's Biomedical Center.

houses under one extended roof about 1,300 staff drawn largely from the preclinical departments of the medical faculty. In addition, it contains the faculty of pharmacy, some departments from the Swedish University of Agricultural Sciences, a government veterinary testing centre and a recently created branch of the Ludwig Institute (a privately-financed cancer research organization).

The advantages of this conglomeration include the ease of access to like minds and the possibilities of sharing expensive equipment. Central facilities are under the control of BMC's director, Professor Lars-Olof Sunderlöf, but he has no control over the affairs of the departments that share BMC's space. "Contractions and expansions have happened", he says, but he is powerless to insist on any changes. □

## Universities

# Survival after reform

IT is ten years since higher education in Sweden underwent a major reform that left its mark on the country's six universities, in Stockholm, Uppsala, Göteborg, Lund, Linköping and Umeå, which are supplemented by the more numerous university colleges and by postgraduate training institutes, such as the Royal Institute of Technology in Stockholm. Perhaps the two major changes were the opening up of higher education to a wider sector of society and the decentralization of much decision making.

In connection with the reform, the former Office of the Chancellor of the Universities was replaced by the Universitets- och Högskoleämbetet (UHÅ) or National Board of Universities and Colleges, which is the administrative organ of the Ministry of Education and Cultural Affairs.

In many respects, says UHÅ's Camilla Modéer, the decentralization measures have given the universities much more flexibility than before in how they spend the money they are centrally granted for education and research. But a striking reminder of the relative lack of autonomy of the universities is that the creation of a new chair still needs parliamentary approval. There is also a device of creating an 'extra' chair, which is within a university's power but for which no extra central funds are available. Increasingly, they are likely to be paid for by sectorial research funds or private donations. In theory the 'extra' chairs are not permanent; in practice, it is recognized that universities will be obliged to pick up the bill if other sources dry up.

While the universities welcomed their increased autonomy, they have had mixed feelings about the reform that opened them up to non-traditional applicants, especially those who wanted a second chance of a higher education, having opted out in favour of work on the first occasion. The difficulties have been greatest for medical schools. At the Karolinska Institute in Stockholm, the mean age of students rose from 20 to 28 as a cohort of ageing would-be medics gained belated entrance. But, says the institute's dean, Professor Sten Orrenius, this intake was not very successful. Many of them were unrealistic about the time and effort that goes into medical studies, and had hoped to hold at least a part-time job while studying in order to support their families. By now, the mean student age is back down to 22.

Johnny Andersson, head of administration at Uppsala University says the problems are exaggerated at medical schools, and that the reform is justified as a measure of social democracy. "It is particu-

larly important to give people a second chance in a small country that needs to exploit every educational opportunity", he says.

A bone of contention for the students themselves is the extent to which they have to repay their educational costs. Whereas the loan scheme, when introduced in 1964, applied to only 75 per cent of the costs it has now risen to 95 per cent, more by evolution than design. Moreover, like students everywhere, they want more money. A new proposal that stands a good chance of becoming law will increase the total grant slightly and reduce the loaned proportion to 75 per cent but make repayments faster.

For postgraduates, the major problem is how to complete their PhD, or its equivalent, in the five years available. This seemingly generous timescale is offset by the fact that postgraduates are not supported by a grant but are employed by the university, in return for which they have to teach for 2 or 3 months a year. The main concern for postdocs is where the next job will come from. Options are limited by the strictly enforced rule that universities will only employ any postdoc for one 4-year research assistant. Thereafter, it is necessary to find either external support, for example from a research council, or one of the occasional tenured university posts that become available.

As for university staff, their salaries are rather low in European terms and staff in the predictable areas of science are increasingly prey to industrial overtures, says Andersson. As a result a long-standing resistance to differentials in professional salaries is, at last, being overcome.

Surprisingly, there is little problem of a 'brain drain' overseas. One financial attraction of an academic position is that any discovery or invention belongs solely to the individual and not to the institution.

For the universities as a whole, a small but real increase in direct funds, via UHÅ, has been guaranteed for the next three years; against global trends, however, most of it will be spent on the humanities.

Where science departments will benefit directly is in the provision of extra funds for new equipment. For some years there have been special funds for this purpose within the research councils and university chancelleries, as well as access to sizeable grants for heavy equipment from the Wallenberg Foundation. Now, apparently under pressure to donate or be taxed, the highly profitable Swedish banks have agreed to make SEK 200 million available over the next three years for the purchase of equipment. All told, the equipment funds currently amount to about SEK 400 million a year. □