

The brain drain is here again

from Richard Pearson

Much is made of the 'brain drain' of UK scientists to overseas posts, but little is known about the extent of the problem.

THE brain drain is back in the news in the United Kingdom. The Civil Service is trying to plug the leakage of computer scientists to industry. The UK scientific community is worried about losses overseas. The universities complain about losses of academic lecturers to industry. There are some hopes that the Strategic Defense Initiative will reduce the brain drain from the United Kingdom. But in Ireland emigration remains an emotive subject with some educationalists seeking to play down talk about a brain drain. It is clear from these recent examples that the term 'brain drain' itself embraces a number of different flows and any assessment of its scale or impact depends on the perspective of the reporter.

Last year the Advisory Board for the Research Councils (ABRC) reported to the government its growing concern about the increasing losses of talented British scientists overseas. Its subsequent detailed enquiry, based on 40 leading research groups, showed that departments were gravely concerned about the losses not only of their most talented students and postdoctoral research workers but also of outstanding senior scientists. However, because the departments usually only employed small numbers of scientists they found it hard to present a statistical assessment of the flow or of the trends over time. They did, however, note a growing loss of senior chemists, materials scientists, biochemists and molecular biologists. The physicists and to a lesser extent the engineers reported far fewer problems. ABRC was able to identify 45 British senior scientists working overseas.

A more detailed study of biotechnology two years ago (*Nature* 309, 654; 1984) revealed an estimated 250 UK nationals who had gone overseas in the previous decade, a total which excluded newly qualifying postgraduates¹. The biotechnologists had gone to a wide range of countries and employing sectors. Typically leavers were aged 26–30 although one in three was aged over 30. The leavers went from industry, higher education and research institutes. The majority went however to jobs with commercial organizations. Nearly half went to the United States, with Switzerland and other European destinations for another one in three. In all, UK personnel went to 13 different countries and were working for over 65 different organizations. One new overseas

biotechnology venture company had recruited over 16 UK nationals.

The reasons for losses overseas have been more related to improved job prospects and research opportunities overseas than salary, although the latter has usually come as a healthy bonus, and can be a major barrier for those thinking about returning. ABRC reported a growing frustration by senior scientists over the improved level of facilities, both recurrent support and equipment, available overseas, and the frustration over the difficulties in getting research funding approved in the United Kingdom. For younger scientists and those newly qualifying, then the flow overseas is seen as part of a more regular pattern of broadening their experience, usually in the United States, although growing numbers are thought to be going because of the lack of jobs in the United Kingdom. The recent restrictions on work permits in the United States may be restricting the scale of this potential outflow. The 'New Blood' scheme designed by the University Grants Committee (UGC) was thought to be helpful in the latter case, while additional UGC research funding is helpful with the former. The government has also cited the opportunities for 'star wars' research now available in the United Kingdom as another inducement to stem the flow. Two other factors aggravating the flow overseas are seen to be aggressive recruiting in the United Kingdom on the part of US universities and industry, and the greater receptiveness of US industry to novel and untried ideas. Where British laboratories have world class facilities, as at the Science and Engineering Research Council Nuclear Structure Facility or the Cambridge Laboratory of Molecular Biology, then they seem able to attract staff back from overseas and losses are not a significant problem. However, growing concern is reported over the level of funding and the lowering of morale which can only encourage further losses in the future.

Losses overseas are, however, usually

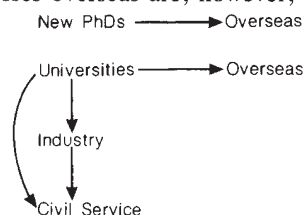


Fig. 1 The brain drain — who flows where?

only a very small part of mobility between sectors and its direct effect has been hard to evaluate. Rather it has been seen more as a loss of potential. ABRC also reports growing concern about losses from academia to industry, particularly of chemists. However, one person's loss is another's gain and flows between sectors within a country have not tended to be classified as a 'brain drain' in the past. A common international problem in times of skill shortages is that there will normally be a flow from academia to industry, the latter usually being quicker to respond to staff shortages by raising salaries and improving conditions. Any shortage of academic, and more specifically, teaching staff will however undermine the future supply of suitably qualified graduates and so reinforce the longer-term impact of shortages.

Ironically, while ABRC was reporting concern about the universities' inability to compete with employers in industry and the scientific civil service, the latter, in the information technology area, is increasingly suffering from an outflow of its specialist staff to industry.

The Civil Service has historically trained all its own computer staff, rarely, if ever, recruiting experienced staff from the open market. Information technology is now being increasingly used in the Civil Service, pushing up the number of skilled staff needed, while at the same time official policy has been to hold down the rate of growth in public sector pay levels. As a result there has been an increasing flow out of the Civil Service into better-paid jobs in industry and commerce. Responding to the growing problems, the government and the trades unions have now agreed increases in pay levels in key grades of up to 26% to help stem this brain drain.

There are many dimensions to the brain drain, the range and direction of 'mobility' covered widening as concern about skill shortages and funding has increased. Quantification in this complex area is rarely attempted, more qualitative assessments and key names are usually the prime ammunition of those seeking to influence policy. □

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1. Pearson, R. & Parsons, D. *The Biotechnology Brain Drain* (Science and Engineering Research Council, 1984).