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## Another sort of braindrain

The steady drift of young scientists away from many rural and even urban areas in the UK must be stopped.

One of the easier things for the delegates to UNCSTD, the United Nations Conference on Science and Technology, to decide upon in Vienna recently was that the flow of qualified personnel away from developing countries is one of the most serious obstacles to development. It was equally easy to enjoin developing countries to create the appropriate work environment, and the developed countries to go steady on their recruiting from the Third World. Whether these fine words make an iota of difference to the brain drain is, of course, another matter. And, apparently for political reasons, one type of brain drain — from one developing country to another — was discreetly not mentioned in the Vienna documents, although it is growing in size and could potentially do considerable damage by the syphoning off from one country to another of people with skills of particular relevance to development. Not all the brain drain problems exist in the Third World, however. First World countries can suffer from less publicised but equally disturbing movements of qualified people, and inadequate attention is paid to this problem.

In Britain, as in many other countries, every young person with at least a passing interest in science will certainly be able to study the rudiments of physics, chemistry and biology. In every school with any pretensions to academic quality at all, those who wish to pursue this interest in more detail will be able to concentrate on the sciences, which may additionally include subjects such as geology and psychology, up to the level of university or polytechnic entrance. At this stage, however, for reasons of convenience, the process of concentration starts, and the next three years have to be spent in one of the hundred or so cities in which facilities for higher education exist.

What happens upon graduation? Most but not all of those with scientific qualifications will gravitate towards the academic and teaching world, towards the civil service or towards science-based industry. As far as school-teachers are concerned, opportunities exist, of course, anywhere within the UK. But this is far from true for most other forms of employment. The curious reader might take a list of scientific jobs available outside school-teaching and plot their location on a map. The chances are quite

strong that a circle of radius 100 km centred on London will encompass at least 60 per cent of all the vacancies. The chances are equally strong that the number of openings north of the Trent will be less than 20 per cent of the total available.

Scientific jobs in Wales, Scotland and Northern Ireland are particularly rare, as are those in relatively rural parts of the country. But a matter of considerable interest is that jobs in many large cities which achieved their prosperity through industry in the nineteenth century are also relatively uncommon. South-East England is by far the most fertile field for scientific employment in the UK, as it is for many other types of white-collar employment.

Does this matter? In some ways it is a good thing if it ensures a critical mass of scientific expertise capable of sustaining the UK's position in the face of international competition. But whilst there are benefits to be derived from concentration, there are also serious disadvantages. If bright young scientists from large areas of the UK cannot find satisfactory employment in their home area but have to migrate to better-endowed areas, there comes a time when the school-teachers who have been diligently educating these students only to see them all disappear begin to lose heart, and science is listlessly or even badly taught. There comes a time when the scientific awareness of whole regions of the country declines because there are inadequate numbers of scientists around to sustain it. There eventually comes a time when good potential scientists are lost in large numbers.

Centres of excellence are undoubtedly desirable in some academic disciplines, and it would be folly to disperse, say, particle physicists to all corners of the country. But much science-based industry, and many civil-service establishments do not really need to be within close reach of London to be effective; their presence in regions at present less highly populated with scientists might even be of more value than being within an hour or two of the capital city.

There is no obvious time to grasp this problem; the brain drain is slow and makes few headlines. But unless there is careful study of the problem soon, followed by corrective action, the pace of the migration will continue to grow to the detriment of large areas of the country. □