



# Manpower supplement

In this issue we put together a number of articles on different facets of scientific manpower. This can in no way be regarded as a comprehensive survey; rather we have considered a number of subjects and of countries and have taken one person's view in each case. The treatment is very largely journalistic—if that means that our analyses lack the background of years of experience it also means that they lack much self-congratulation and a sense that all is necessarily for the best. For in some ways the purpose of this supplement is to warn that the question of the use of scientific manpower is increasingly not one which can be ignored. It is becoming abundantly clear that the system by which schools supply universities and polytechnics which supply schools, industry, government and themselves is not automatically self-regulating.

At the heart of manpower issues are several contradictions:

- Scientists or their representatives are increasingly looking for life-long tenure, although science itself proceeds more by revolutions and perpetual rejuvenation.
- The waning appeal of science to the young is widely believed to be largely because science is highly specialised and dissociated from human dimensions and therefore unattractive, but this is just at a time when some of the questions that are being asked of science are simple, stimulating, strongly related to human needs and highly multidisciplinary.
- Bad news about employment prospects can affect the choice of career of a prospective scientist six or more years before employment prospects become relevant.
- At a time when the techniques of manpower planning are being criticised for coming up with the wrong answers, the British Department of Education and Science apparently intends to use the manpower-planning approach in formulating some of its policies for higher education.
- Academic life is supported in great part by the taxpayer and yet intervention by government in university affairs is all but unthinkable.
- Scientists, particularly in government and industry, often experience a conflict of loyalties between their employer and the wider, often international, cause of science.
- Students, for various reasons, can occasionally get

hooked in large numbers on subjects such as astronomy in which employment prospects are poor and universities often powerless to do much except absorb all-comers.

Perhaps one of the most tricky problems of manpower use is the all-growing-old-together syndrome. This can be seen around the world in two totally different situations—defence establishments and new universities. In the 1940s, in response to the demonstrable success of scientists in the Second World War and the emergence of the Cold War, many new establishments were formed and many old ones recruited in large numbers. Likewise in the 1960s in Britain (and later in some other parts of the world) many new universities were built and absorbed vast numbers of young researchers as teaching staff. The degree of homogeneity in both these groups is undoubtedly higher than elsewhere, but homogeneity coupled with a growing seniority is not necessarily the best of environments for research. And recruitment within a narrow temporal band often means that people are taken on simply because they are around rather than because of any intrinsic merit they possess.

There are many other topics worth pursuing—brain drains, the PhD in industry, retraining programmes, the research scientist as school teacher, are but a few. The only things that can be said with much certainty about the scientific profession at present are that a young man entering at 21 can not expect an uninterrupted ride to 60, and that the scientific community is going to hear more and not less of the word manpower in the next few years.

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