whether postgraduate education is meeting manpower needs proved too complicated, chiefly because postgraduates often find employment in areas outside their disciplines of study and employers are usually unable to indicate precisely their future needs at postgraduate level.

The working party report concludes that postgraduate education should continue much at the present level, but suggests that the Natural Environment and Social Science Research Councils should take a leaf out of SERC's book by encouraging specific postgraduate advanced courses in subjects for which there is a growing need.

PhD success rates of SERC-supported students by subject

Subject	Success rate (%)
Biology	68
Chemistry	75
Physics	61
Maths	56
Astronomy	58
Engineering	52
Social science	39
Average	58.4

The data are for 1974 and 1975 starts, and were collected in July 1980–February 1981.

Strangely enough, however, unemployment rates are greater for those who have followed advanced courses than for those who have completed research studentships and, in the same breath, the working party also recommends that SERC should move towards research rather than advanced course studentships. It points to the reluctance to wind down courses once a specific manpower need has been met and SERC's difficulty in finding students of sufficiently high calibre to fill the places reserved for advanced engineering courses.

The universities come in for the worst drubbing. Poor PhD completion rates are attributed mainly to the morale of particular departments and the lack of adequate supervision. Poor supervision, the report says, can lead students to an unwise choice of research topics and can result in inadequate training in the techniques of research.

On the substantial differences in PhD completion rate between the natural and social sciences, the report says that there are inherent differences between the subjects. Thus social science students concerned that their first work should be a *magnum opus*, have a greater tendency to take on research topics which are far too ambitious to be completed within the normal three years. Perhaps, therefore, it is no surprise that 54 per cent of those embarking on PhDs in the natural sciences in 1975 had completed within five years compared with only 31 per cent in the social sciences.

Nevertheless, the working party finds the PhD completion rates in both disciplines "wholly unsatisfactory". The criteria for a PhD may have become more stringent in recent years, says the report, leading some students to take up topics unsuitable for a three-year study. Another

Average salary of graduates by occupation and highest postgraduate qualification achieved (1979–80)

<i>Engineering and technology</i>	
None	£5,520
MA	£5,700
PhD	£5,085
<i>Science</i>	
None	£5,350
MA	£5,970
PhD	£4,855
<i>Social studies</i>	
None	£5,810
MA	£5,970
PhD	£5,000

problem is that students from small departments can lose motivation, especially if inadequately supervised. It therefore recommends that the research councils concentrate their postgraduate awards in larger departments where students may be attached to groups of experienced researchers working on a particular problem, and that supervisors should take more care to fulfil their responsibilities. The aim should be to complete research work within three years and to submit a final thesis before the end of the fourth.

The working party's report recommends several remedial actions. Universities should monitor research students at the end of their first year of postgraduate study and relegate those unsuited for research to MSc courses. Both outside academic institutions and industry should have a greater role in the choice of an individual's research topic. Finally, the research councils should review their postgraduate policies every four years, taking into account representations from potential postgraduate employers. **Judy Redfearn**

University research staff

Postdocs' plight

More than a quarter of the academic staff at the University of Bristol are contract researchers — postdoctoral students who in years gone by would now be on the academic staff. This is one of the more startling conclusions of a detailed survey of Bristol academics just completed by the lecturers' trade union the Association of University Teachers (AUT).

AUT claims that this is the most comprehensive study of university employment yet undertaken in Britain, and it reveals the frightening extent to which universities appear to be relying on labour which, if the research councils firmly apply their rules of cutting off postdoctoral support after, say, six years, could rapidly be lost. Nearly two-thirds of the contract researchers have less than a year of their present contract to run, the survey showed. Thus the university system could shrink without the government lifting a finger.

Naturally, AUT is most concerned about the individuals who may lose their jobs. A third are over 30 years old, one in five has dependent children, and nearly 40 per cent of researchers who have either masters or PhD degrees have no "academic status" (granting them voting and library rights, for example) in the university.

The survey, says AUT, "shatters the myth" that contract research can be regarded as a brief step on the way to an academic post. Nine per cent of the researchers surveyed had had four or more contracts, and 34 per cent, two or three. Twenty-eight per cent of the contract researchers had already been in research

Med comes clean

Political bickering between the 18 countries surrounding the Mediterranean has not stopped the initialling of the fourth protocol and arm of the United Nations Environment Programme's (UNEP) plan to save the Mediterranean from further environmental damage. The Mediterranean action plan was launched at the Barcelona convention in 1976, and the latest agreement obliges the signatory countries to set up coastal protected zones. The aim is not just to preserve a representative cross-section of Mediterranean ecosystems but also to foster commercially viable farms for oysters, lobsters and other shell fish.

The 1982–84 budget of \$7 million will mostly be shouldered by Italy, France and Spain, with \$400,000 from the EEC itself. A major spur for this spending is the concern that environmental dangers will affect the tourist trade. From a scientific point of view the protected areas will be useful for baseline studies of ecosystems to see whether coastal waters are getting worse or better.

Among the Mediterranean species in danger of extinction are the monk seal, marine turtle, European otter, Dalmatian pelican, peregrine falcon, oysters, mussels, the Iberian midwife

toad, the pied kingfisher and the spectacled salamander. UNEP hopes that the present number of 15 marine parks and reserves will eventually grow to at least 100. **Jasper Becker**