

Better answers needed

SIR — The Manifesto for British Science (*Nature* 353, 105; 1991) began by making the important point that it is the way that money is spent, rather than the absolute amount, that is the most important aspect to get right. There were also the important, and we think widely accepted, points that an extension of the period of the first degree, as well as a more structured approach to postgraduate research training, should be considered with some urgency. The proposal that research student stipends and academic salaries should be increased substantially was also welcome, if diverting attention from the main problem and contrary to the opening gambit. However, it was almost with disbelief that we read that a principal answer to the problem should be to double the numbers of research students. Certainly contemporary society demands that young people should receive a good scientific and technical background, and that many should also have some research experience. But, to suggest that the panacea is to double the number of research studentships seems not only foolhardy but also to imagine that young graduates are fools.

In more than 15 years of working in research, we have rarely heard young researchers suggest that their major complaint is one of inadequate personal reward (even though that would be reasonable in many cases). Almost exclusively, the complaints have been because of not knowing if or when the next job will be available. Why would intelligent young graduates want to enter a discipline where there were not enough positions (let alone money) for the numbers already in the race? If the manifesto authors believe that more money alone will tempt potential researchers, why is it so difficult to find good new graduates to fill current, relatively well-paid research assistant posts where they may normally also register for a postgraduate degree? Further, why are there so few applicants for the better paid research fellowships?

Perhaps a more useful way of spending limited amounts of money to encourage young people to take an interest in research, which would complement the desire for four-year science degrees, would be to support sandwich degrees more adequately and get young people into research laboratories as part of their first degree. To persuade them to pursue research further will, however, still require them to observe that research is organized on a rational basis, and a fundamental rethink of careers for researchers. The difficulty here seems to be that the present administrators of academic research are so busy blaming

someone else for the problem that they will not face up to the task of providing an adequate career structure for research scientists. This issue was raised in some detail at the meeting called to discuss the manifesto, although only touched on in a subsequent leading article and News item in *Nature* (353, 195 & 203; 1991). One might hope that the editor and writers of a manifesto for such an august organ would be able to examine the defects within the scientific community as well as those of government. Instead we watch with despair, as they prefer to climb in and out of the crumpling ivory towers inhabited by the present administrators of academe.

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SIR — The Institution of Professionals, Managers and Specialists (IPMS) represents more than 4,000 members working in research councils, and over 15,000 of our other members are scientists working predominantly on research. We welcome the initiative taken by *Nature* in publishing its Manifesto for British Science, and in particular the call for the appointment of a Minister for Science and for the government to end its underfunding of research and we endorse the call for stability in strategy and an end to the switchback of policy changes.

But we believe that the manifesto needs strengthening in two areas and that its tone towards, and policy for, the research councils is fatally flawed.

The manifesto makes much of the need to improve the number and pay of PhD students and the pay of those who supervise their work within the higher education institutions (HEIs). But that will not solve the problem. The relative pay for all scientists needs to improve if we are to attract and retain high-quality students. Sir Mark Richmond stressed the importance of improving pay — he might look to the employees of his own research council where scientists earn less than equivalent engineers. Repeated attempts by IPMS to end this anomaly have been blocked by the councils. So what chance have we of convincing the wider public of the merits of our case?

Data from the 1990 New Earnings Survey show that scientists and mathematicians receive less than two-thirds of the earnings of finance, insurance and tax specialists. The government, as the largest single employer of scientists with

the heads of the research councils, should take a lead in redressing this situation.

An additional problem is the prevalence of short-term appointments, within both the HEIs and research council institutes. As we pointed out in our evidence to the Royal Society: "The increase in short-term appointments has had a disastrous effect on career development, continuity of programmes and stability of employment. The experience of IPMS members is that the system is disruptive, inefficient and unfair."

The proportion of science and technology staff on short-term contracts in universities has risen from 25 to 42 per cent. Within the research councils, up to 80 per cent of new appointments are on a short-term contract basis. There is little prospect of recruiting more scientists unless there is proper career development and greater security of employment. We are not advocating a cosy life for scientists but one in which vigorous science can take place within a properly managed career structure.

The manifesto's proposals for the dismemberment of the research councils would be disastrous. We agree with Dr Jeremy Bray that the absorption of the research institutes by the operational departments would result in no benefit but major disruption of research. Almost 80 years ago, Haldane specifically proposed that the research units be separate from the executive departments so that those beholden to ministers could not direct research programmes nor suppress their results. The research institutes have a crucial role to play in bridging the gap between basic research and its practical application which is still one of the weakest aspects of the UK system.

This antipathy towards research councils and their institutes pervades parts of the manifesto. Like Lord Porter, you believe that the "centralization of research facilities should be reversed". But the view that research can be confined to small teams working in HEI laboratories is outdated. Large facilities are necessary in many areas of work, a view confirmed by many small HEI research teams which make great use of research council facilities, for example the Nuclear Structures Facility at Daresbury. While we accept that the dual-support system is not providing HEI research teams with the resources they need, to attack research council institutes is to target the wrong enemy. Our major problem is a government which changes priorities without warning and keeps researchers, wherever they are located, scandalously short of resources.

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