correspondence

Mobility is not the only way forward

In European research today, mobility has become firmly entrenched as a prerequisite for a successful scientific career; however, the reasons behind this emphasis on scientific nomadism are far from obvious. It is all too common for science policy-makers and funding bodies to extol the seemingly endless virtues of mobility, but it nearly amounts to heresy to ponder the possibility that a move abroad might also have drawbacks. It was therefore a breath of fresh air—to those of us who did not change countries the last time we changed jobs—to read Frank Gannon's recent editorial (Gannon F (2007) The downsides of mobility. *EMBO Rep* 8: 201).

With a healthy dose of realism, Gannon lays out most of the disadvantages of moving, which, unfortunately, are as obvious as they are neglected. These range from losing out in pension schemes and property markets to wasting time and energy on readjusting to foreign administrative systems and social environments. There are still more factors that should dampen the current unrestrained enthusiasm for mobility: possibly serious language-related difficulties for researchers and their families, loss of support from relatives in raising one's children and the substantial costs of moving to a foreign country, which are often not reimbursed. Together, these hindrances can be dramatically vexing to the travelling scientist, to the point of seriously impeding his or her research productivity and career development—the officially proclaimed *raison d'être* for mobility.

All this would be acceptable if researchers were free to choose whether or not to move. However, this choice is not really free, as mobility is typically either a major advantage or a crucial requirement for competing for scarce funding in science. Therefore, a brilliant young scientist moving from, say, a PhD position in Edinburgh to a postdoctoral position in Cambridge could lose out against an average researcher relocating from Belgium to Luxembourg,

simply because he or she will not be eligible for some of the most prestigious fellowships in science.

This perplexingly automatic promotion of mobility has left some researchers feeling as if the system were designed to minimize the opportunity for stable family and social ties, to the point where the best choice left to scientists is to devote themselves exclusively to their research. The real motives are more likely to be political—linked to the fostering of a cross-border European research culture—which might look good on the glossy pages of public relations brochures but does not always work well in or outside the laboratory. Perhaps, as Gannon suggests, mobility has simply become a fashionable buzzword in scientific policy circles, all at the expense of researchers.

Naturally, none of the above is meant to suggest that mobility is harmful or useless. There is no doubt that many scientific careers have been, and will continue to be, greatly boosted by moves to different research environments in new countries. What is at issue, however, is the mechanical endorsement of mobility as the only acceptable way forward for researchers, without any rational justification for why scientific progress is impossible without changing country.

The good news is that we are starting to see some steps toward displacing the mobility prerequisite. For example, the European Molecular Biology Organization (EMBO) has recently changed the rules for its fellowships so as to soften the requirement for mobility, and the newly created European Research Council (ERC) Starting Grants explicitly set out 'scientific excellence' as the sole selection criterion. That good science should be the only factor in distributing research funds sounds perfectly logical, but, alas, not perfectly typical in the mobility-obsessed world of scientific funding bodies. We can only hope that once others follow the positive examples of EMBO and the ERC, the old mobility reflexes of selection panels will dissipate. Let us hope, too, that they will not be replaced by an insurmountable

bias for 'interdisciplinarity', 'translational research' or whatever happens to be the trendiest fad of tomorrow.

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How many scientific papers should be retracted?

Published scholarly articles commonly contain imperfections: punctuation errors, imprecise wording and occasionally more substantial flaws in scientific methodology, such as mistakes in experimental design, execution errors and even misconduct (Martinson *et al*, 2005). These imperfections are similar to manufacturing defects in man-made machines: most are not dangerous but a small minority have the potential to cause a disaster (Wohn & Normile, 2006; Stewart & Feder, 1987). Retracting a published scientific article is the academic counterpart of recalling a flawed industrial product (Budd *et al*, 1998).

However, not all articles that should be retracted are retracted. This is because the quality of a scientific article depends, among other things, on the effort and time invested in quality control. Mechanical micro-fractures in turbojet components are detected more readily than those in sculptures, as airplane parts are typically subjected to much more rigorous testing for mechanical integrity. Similarly, articles published in more prominent scientific journals receive increased attention and a concomitant increase in the level of scrutiny. This therefore raises the question of how many articles would have to be retracted if the highest standards of screening were universally applied to all journals.

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