Jobs for the boys

Much has been written about the so-called gender gap, whereby women are increasingly under-represented as one moves up the professional ladder. This is true even of vocations such as nursing that were once considered to be a female fiefdom.

In molecular biology the gap remains glaring. Despite the valiant efforts of funding bodies, professional associations and many individuals, the percentage of women professors in the life sciences, or female members of national and international academies, remains generally below 20%, and is only slightly higher in supposedly gender-equal societies such as Scandinavia or California. Following seven decades of communism, which supposedly promoted an agenda of sex equality, Moscow State University currently doesn’t publicize the proportion of women professors or respond to enquiries about it.

The reasons for this failure to tap into the talents of half the human race are complex, but the structure of academic careers obviously weighs heavily. At the time when they need to decide whether, where and with whom to have children, women scientists are also facing the most demanding competition they are likely to experience in their entire career. The transition from senior postdoc to junior faculty member involves, in addition to a large dose of good luck, gruelling hard work, single-minded dedication, resilience in the face of repeated failures, and willingness to move anywhere in the world to land the best, or perhaps the only job on offer. Most women simply are not prepared to sacrifice the other components of their life-plan to go through this, especially given that success is less likely than failure.

Seen in the cold-hearted manner of a government bureaucrat, we are wasting a huge amount of resources on training brilliant women scientists for jobs they will never even apply for. Seen through the eyes of a brilliant woman scientist who is forced into making such a choice, the system is grossly discriminatory and fundamentally inhumane.

Fighting for structural changes in science to give women a fairer chance to compete is going to be a long struggle. Possibly the major force for change will be the increasing desire of men to have a proper family life as well. I was recently asked by a journalist, ‘What is the secret of your success?’ After she refused to accept my first stab at an answer (‘What success?’), I realized that my most important advantage in doing science is simply that I’m single. Very few partners, spouses or families would put up with the demands that academic work imposes on my lifestyle and mood. Even those scientists who marry each other—they can at least empathize about the problems—are still faced with all the same difficulties if they want to have a family. There is a danger that we will one day achieve gender parity whilst merely shifting to another kind of discrimination; against parenthood.

To anyone who has taught biology students at a university in a Western country, there is another, equally glaring gender imbalance, namely the heavy preponderance of women in both undergraduate and postgraduate classes. At my residential PhD summer school last year, where the participants were selected purely on merit, these were 21 females to 3 males. Not only is this a serious problem in itself. It makes the eventual exclusion of women from high positions an even more blatant anomaly. If we are losing half of our talent at age 30–35, it suggests we are losing the other half already at age 20–25. The implications for those who finally achieve success are not terribly inspiring.

Most boys still tend to choose degree courses that will lead to a secure, well-paid job, as the financial basis for a successful family life. We are simply fooling ourselves if we pretend that students mainly select courses out of sheer curiosity or passion. The lack of highly qualified male applicants for biology thus reflects a perception that the subject just does not lead to a proper academic career. Partly this may reflect a more general misunderstanding of what modern bioscience is all about, i.e., something ethereal rather than practical. Or, if practical, something done by clinicians in their spare time, rather than the life’s work of a career professional. Paradoxically, this lack of perceived career security both deters men from entering biology in the first place, and then militates against women remaining in it later on.

Such misperceptions can be modified by scientists engaging more directly with the public and through schools. But there is also a real underlying problem. There just aren’t enough genuine jobs in academic biology, and the cut-throat competition for them makes bioscience an unattractive option, which is the root cause of both gender gaps.

Whilst a proper tenure-track system in academia goes some way to redress the balance, we also need to devise a fairer means to judge the productivity, the potential and the academic merits of those who cannot or choose not to devote 18 hours per day to science. At the same time, governments should do much more to create a fiscal climate where the private sector can support innovative, but risky translational projects. The potential rewards are currently so long-term and so uncertain that investors are deterred and biotech start-ups usually fail (or are focused on banal applications). Often, start-ups amount to no more than ephemeral play-things for senior professors, predominantly employing staff on short-term contracts.

Unless we are prepared to focus on concrete actions rather than idealistic exhortations, molecular biology will remain largely something to occupy one’s time between adolescence and child-rearing, with a huge loss to human progress.

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