Correspondence

Response to Moussian

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Reply to: B Moussian (in this issue)

As is clear from our essay, we agree with one of the points made by Bernard Moussian: that the reviewer is the weak point of the traditional system of peer review. But training young scientists to improve their reviewing skills, while a worthy idea, would have little impact because the main problem lies elsewhere. For any one paper, a small number of reviewers are being asked to do an almost impossible double task. First, they are expected to understand a paper “better” than its authors and thereby judge its value simply by reading it. Second, they are asked to make predictions about its future impact. And they must do both while remaining unbiased. However well trained, reviewers cannot reliably do this, because the future is fundamentally unpredictable. It is not peer review that is producing excellent scientific articles, but it is the scientists who perform the research. Traditional peer review is often largely irrelevant, as, unlike journalists in the popular media, the vast majority of scientists take professional pride in producing high-quality science and would not publish shoddily performed work or whimsical ideas. The assertion that “[young scientists]…have not yet sufficiently proven their reliability based on earlier publications” is a tacit admission that reviewers often rely on the reputation of the senior author because they cannot otherwise judge the paper. Such attitudes are nevertheless patronizing and harm careers of young scientists.

We are also dismayed by the opinion that the life sciences “are and have to be conservative disciplines” and “Uncritical openness for “new ideas” would…destroy scientific credibility”. On the contrary, scientists must welcome original ideas and must not censor those that do not fit the conservative mold. The body of knowledge forms the foundations on which to build, and testing their solidity by challenging them with novel ideas is vital. It has been well documented that the peer-review process fails in this respect. Owing to unconscious psychological prejudice against new ideas, it tends to be biased against innovative research [1,2]. Like asking people to admire the Emperor’s new clothes, forcing scientists to comply with reviewers’ demands or face rejection discourages risk taking and encourages conformity.

Moussian is correct to assert that “[new findings] need to be critically tested and discussed by the scientific community”. However, the current system of peer review does neither since it places excessive weight on the opinions of a few individuals (the reviewers), who rarely agree more often than would be expected by chance. Exploiting the intelligence of the community to judge and improve publications can best be achieved by widening the audience and opening channels for feedback. This should take the form of pre-publication dissemination of results to peers, which was already achieved in the pre-peer-review era (before the Impact Factor) by scientific conferences. We can now exploit the power of the Internet to accelerate the increase in knowledge, and dump the Impact Factor in the process. While we do not propose to discard the traditional peer-review system in its entirety, we consider its methods to be anachronistic. Denying the possibilities provided by modern communication systems to overcome previous limitations could only conceivably be of interest to the lucrative peer review-based industries and to scientists who trade on their reputations rather than their results.

References