

Incomplete screening?

To the editor:

It was gratifying to see in the March editorial of *Nature Immunology*¹ that this journal, along with the other Nature research journals, has embraced the shared responsibility of journals and scientists to ensure that published data meet minimal standards for integrity. Although *Nature Immunology* has taken up this charge nearly 5 years after we at the *Journal of Cell Biology* first raised the issue publicly², science, scientists and the organizations that support scientific work will all be better served as a result of this decision, and I thank the Nature Publishing Group for taking this step. I question, however, why Nature research journals have chosen only to 'spot-check' accepted manuscripts for incidences of inappropriate digital data manipulation. At the *Journal of Cell Biology* and at its Rockefeller University Press 'sister publications' the *Journal of Experimental Medicine* and the *Journal of General Physiology*, all accepted manuscripts are screened.

Nature Immunology correctly reports that a 4-year study at the *Journal of Cell Biology* indicated that about 25% of our accepted papers had at least one incidence of manipulation³. As mentioned in the editorial, and based on our incomplete anecdotal evidence, since the implementation of our screening policy the frequency of data manipulation has not decreased. From this, *Nature Immunology* concluded that systematic screening may not serve as a deterrent. But we would like to point out that this was never its purpose.

We screen for one reason: to ensure as best we can the integrity of all data that enter the published record. In our minds, the only way to accomplish this goal is to screen all of the papers we accept. 'Spot checks' are unlikely to accomplish even this minimal goal. Moreover, to the extent that screening is a deterrent, it is our opinion that 'spot checks' will probably be less effective than systematic screening.

Under the direction of the *Journal of Cell Biology's* executive editor Mike Rossner (now director of the Rockefeller University Press), our journal was the first to implement routine screening, and we have led the way in developing methodologies to conduct it. *Nature Immunology* editors have consulted us, as have the editors from many other publications (*Science* also adopted our standard procedures). The Nature research journals have at least produced guidelines for digital images in their instructions to authors, but I hope they will enforce them by screening every accepted paper.

In the long run, I believe the most positive result from all this has been increasing the awareness of scientists, students and journal editors about the problem of how science is reported in the digital age. Our efforts have been reported by Nicholas Wade of the *New York Times*⁴. The US National Academy of Sciences has now convened a study group to examine the issue (<http://www7.nationalacademies.org/obas/>), and we look forward to their report and recommendations. With increasing frequency, presentations

are now made to graduate students in US, European and Australian universities to discuss what is and what is not acceptable in the handling and representation of digital data.

I congratulate *Nature Immunology* and Nature Publishing Group for taking this important step. The Nature research journals represent a highly influential and distinguished part of the publishing landscape. Once again, we urge them to complete the process and screen every image of every paper they publish. It is not too expensive, especially given the importance of the task at hand. Indeed, if cash-strapped, not-for-profit journals such as the *Journal of Cell Biology* and the *Journal of Experimental Medicine* can do this routinely, we believe that all journals should be able to absorb the costs of such a screening procedure. This is the best way to serve the scientific community, which, after all, represents both the contributors to and consumers of journals. It is the difference between a 'surge' and doing the right thing.

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1. *Nat. Immunol.* **8**, 215 (2007).
2. Rossner, M. *J. Cell Biol.* **158**, 1151 (2002).
3. Rossner, M. *The Scientist* **20**, 24–25 (2006).
4. Wade, N. *The New York Times* 24 January 2006, F1.