

information somehow deemed superfluous to the printed manuscript. Although the additional publication of supporting material as supplementary online information is often necessary and even commendable, how can a reviewer possibly wade through all this information in a timely manner to provide a rational recommendation to the editors on the merits of the manuscript for publication? We suggest that the lack of rigid criteria applied to such supplemental information promotes mistakes and omissions in methodology explanations that can lead to frustrating attempts by colleagues to reproduce the experiments and results claimed in the original publication. In contrast, many journals also publish full-length research articles that adopt the traditional publication format containing the introduction, methods, results and discussion sections. However, too often these methods are minimal and still necessitate augmentation by supplementary online documents that suffer from the same inadequacies as outlined above. The underlying theme is that the poorly described methodology is no longer the exception; it occurs far too frequently.

Several theories may explain this trend of peer-reviewed scientific journals to lack rigorous methodology sections in too many of the published manuscripts: first, due to publishing constraints on space, journal editors are required to keep manuscripts shorter, so authors opt to truncate the methodology or relegate this necessary section to the supplementary online files to avoid restricting the results on display; second, reviewers are overwhelmed with information and simply do not have the time to properly evaluate manuscripts or do not recognize the importance of appropriate methodology sections of manuscripts; third, authors may be somewhat superficial with methods and/or knowingly withhold vital aspects to protect their status as the exponents in the field or to pursue personal financial rewards through patenting and licensing agreements. Although these last two points are extreme views, it is conceivable that reviewers and authors, in addition to the space limitations already determined by journal guidelines, do contribute to the overall insufficiency of methodology currently commonplace in scientific manuscripts. How many of us as authors, when faced with editorial reviews recommending manuscript shortening decide to trim the methods section because it is less important? Additionally, as reviewers how often do we carefully inspect scientific methodology and its consistency?

It is evident that the evolution of scientific publication is warranted due to the extreme competition for journal space brought about by more papers being written. This increased volume is good for scientific communication and its subsequent globalization; however, the process of publication of, and debate over, data and theories needs to remain well regulated. The continued neglect of scientific methodology in publications will, in our opinion, only lead to a reduction of overall scientific quality. Attempts to address this problem by scientific journals have largely centered on the practice of 'attaching' supplementary online files to manuscripts. Although on one hand this approach allows a larger amount of information to be communicated, on the other it produces an almost unlimited quantity of data that are not always sufficiently screened, probably because of the large volume and its assumed secondary importance. Admirably, *Nature* has recently implemented new guidelines for the addition of methods to their published research articles and letters. Authors are given multiple options (<http://www.nature.com/nature/authors/gta/index.html#a5.3>) for the appropriate presentation of methods within their manuscripts, avoiding the demotion of Methods to the supplementary section. This approach should be commended and we hope adopted universally by additional scientific periodicals. Aside from these rules, we should all make an extra effort as authors and reviewers to ensure that scientific methodology resumes its rightful position as the foundation of basic scientific research.

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Nature Biotechnology responds:

Nosedà and McLean raise interesting points. With regard to the ability to reproduce a paper's methodology and findings, the fact that descriptions of methods in Supplementary Material online are not copy edited for grammar or clarity at *Nature Biotechnology* (or at any other *Nature* research journal for that matter) could be argued to potentially compromise the lucidness and ease with which a reader can repeat a published experiment. As the authors also point out, *Nature's* new guidelines (<http://www.nature.com/nature/authors/gta/index.html#a5.3>) for the addition of methods to its published papers provide authors with flexibility in how to present their methods within the final printed issue and online. One additional benefit to *Nature's* approach, not mentioned by Nosedà and McLean, is that references to methods or protocols that appear in the Methods section remain in the printed paper rather than being relegated to online only (where they are less likely to be cited). We would welcome feedback from our readers as to whether they feel *Nature Biotechnology* should follow a similar model to *Nature*.

Ethics of research on human biological materials

To the editor:

I would like to clarify some of the Council of Europe's (Strasbourg, France) legal instruments—in particular the Convention on Human Rights and Biomedicine, and Recommendation (2006) 4 on Research on Biological Materials of Human Origin—that are referred to in the correspondence 'Ethical framework for previously collected biobank samples' by Gert Helgesson *et al.*¹, published in the September issue.

On page 975, in discussing consent procedures for previously obtained biobank samples, the authors recommend that "When the study is not particularly sensitive, and on the condition that (i) strict coding procedures are maintained, (ii) secrecy laws apply to any handling of sensitive information and (iii) vital research are at stake,...that genetic analyses of identifiable samples should be permitted without (new) consent." They go on to say that "This is in

