

The responsibilities of authors

Changes to our policies on authorship reflect the need for greater clarity about the contributions made by different authors to research papers.

The laws of physics, as far as we know, do not change with time, which makes them unique in many ways because most laws — legal, sporting or otherwise — are regularly revised or replaced, with new laws being introduced to reflect changes in public attitudes, developments in technology, new threats to society and countless other things. The same is true of science and scientific publishing, and there have recently been some changes in the laws — or policies as we like to call them — at Nature Publishing Group^{1,2}. There are two main changes: the duties of senior authors within collaborations have been made explicit, and author-contribution statements will be mandatory for papers submitted after 30 April 2009. At the same time, *Nature Nanotechnology* is discontinuing the practice of accepting presubmission enquires about manuscripts.

Is getting the grant for the research enough for someone to be listed as an author?

As an increasing volume of research is carried out by collaborations, often from labs based in different countries or continents, it has become more important to be clear about who did what and who is responsible for different parts of the paper. Therefore, for papers from such collaborations, we are now asking that at least one senior member from each group in the collaboration takes responsibility for that group's contribution to the manuscript. At a minimum, this author should agree to: ensure that the original data is preserved and retrievable for re-analysis; ensure that the data reported in the paper are representative of the original data; and foresee and minimize obstacles to the sharing of data, materials, algorithms or reagents described in the paper. The corresponding author(s) will remain responsible for ensuring that enquiries about the paper are answered promptly on behalf of the coauthors, directing enquiries to the other authors as appropriate.

Related to this is the decision to make author-contribution statements compulsory.

Many papers in *Nature Nanotechnology* already contain such statements³, but a significant minority do not, and there seems to be no compelling arguments for papers not to include them. There is no prescribed format for these statements — it is equally acceptable to state that: “All authors contributed to all aspects of this work,” or to detail who, for example, prepared the samples, did the characterization, performed the measurements, analysed the data, did the theory, wrote the manuscript, commented on it, directed the project and so forth. The only requirement is that each author is included in this statement — and if it seems difficult to summarize what someone did, maybe they should be mentioned in the acknowledgements instead.

This will inevitably raise the question — is getting the grant for the research enough for someone to be listed as an author? The answer to this question will vary from paper to paper; however, as ‘getting the grant’ generally also involves, among other things, writing a detailed proposal, recruiting new researchers to the project and providing ongoing intellectual input and internal review/quality control/supervision, the answer will often be yes.

While discussing the issue of author responsibility it is impossible not to think about famous cases of misconduct in science and to ask what, if any, changes in the policies of journals might have prevented them. Would either of the changes outlined above have prevented Jan Hendrik Schön from publishing a string of papers containing fabricated data between 2000 and 2002? Probably not, but they might have clarified some of the unusual circumstances surrounding his work — such as the fact that many of his experiments were ‘performed’ at Konstanz University, where he did his PhD, and not at Bell Labs, where he was employed — and might have made some of his colleagues more reluctant to be listed as coauthors on his papers. (A new book on the Schön affair, *Plastic Fantastic*, is reviewed on page 337 of this issue).

The official report⁴ into the Schön affair also raised the issue of the responsibilities of coauthors, but it effectively ducked

this “extremely difficult issue” because “no clear, widely accepted standards of behaviour exist”. For the record, the report concluded that Schön's coauthors had, “in the main, met their responsibilities, but that in one case questions remain that the Committee felt unqualified to resolve, given the absence of a broader consensus on the nature of the responsibilities of participants in collaborative research endeavours.”

The peer review process is not black and white, and differences of opinion are routine.

The new guidelines outlined above, and those introduced by other publishers, are intended to address some of these issues. It is now generally agreed that every author is not responsible for every aspect of the paper, and that some authors need to be more responsible than others. The American Physical Society⁵ for instance, goes further than Nature Publishing Group by stating: “Authorship should be limited to those who have made a significant contribution to the concept, design, execution or interpretation of the research study ... Some co-authors have responsibility for the entire paper as an accurate, verifiable, report of the research. These include, for example, coauthors who are accountable for the integrity of the critical data reported in the paper, carry out the analysis, write the manuscript, present major findings at conferences, or provide scientific leadership for junior colleagues.”

Of course, the peer review process is not black and white, and differences of opinion between authors, referees and editors are routine, but it is in all our interests to adhere to the laws as they stand at present, and to improve them as and when we can. □

References

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