

Acknowledgements

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Viewpoint

Manipulation of bibliometric data by editors of scientific journals

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Although a bibliometrician myself, I believe that we, bibliometricians, are partly responsible for the bibliometric perversions currently in vogue to evaluate the performance of scientists. Bibliometricians are often negligent about, or indifferent to, how bibliometric indicators are interpreted by others, the terms used for referring to concepts, and other terminology, particularly terms referring to the properties of items assessed using bibliometric indicators.

I support this serious charge against my colleagues with some examples. Take the fashionable term ‘altmetrics’, which reflects no particular domain or discipline (in contrast to ‘bibliometrics’ or ‘scientometrics’); using the term ‘metric’ instead of ‘indicator’ is a sign of overvalued evaluative ambitions, as is the frequent but uncritical use of the pairs ‘value’ and ‘quality’ as full synonyms.

Such misuse of terms not only justifies the erroneous practice of research bureaucracy of evaluating research performance on those terms but also encourages editors of scientific journals and reviewers of research papers to ‘game’ the bibliometric indicators. For instance, if a journal seems to lack adequate number of citations, the editor of that journal might decide to make it obligatory for its authors to cite papers from journal in question. I know an Indian journal of fairly reasonable quality in terms of several other criteria but can no longer consider it so because it forces authors to include unnecessary (that is plain false) citations to papers in that journal. Any further assessment of this journal that includes self-citations will lead to a distorted measure of its real status.

An average paper in the natural or applied sciences lists at least 10 references.¹ Some enterprising editors have taken this number to be the *minimum* for papers submitted to their journals. Such a norm is enforced in many journals from Belarus, and we, authors, are now so used to that norm that we do not even realize the distortions it creates in bibliometric data. Indeed, I often notice that some authors – merely to meet the norm of at least 10 references – cite very old textbooks and Internet resources with URLs that are no longer valid. The average for a *good* paper may be more than 10 references, and a paper with fewer than 10 references may yet be a good paper (The first paper by Einstein did not have even one reference in its original version!). I believe that it is up to a peer reviewer to judge whether the author has given enough references and whether they are suitable, and it is *not* for a journal’s editor to set any mandatory quota for the number of references.

The editors of many Belarusian journals also limit self-citations (authors citing their own papers) to 20%. However, authors of papers focusing on methods inevitably exceed that percentage. What is an author to do in such a case? One way is simply to increase the *total number* of references so that the *proportion* of self-citations becomes 20% or less. Thus the citations are superfluous or, to be honest but blunt, false. How reliable will the results of bibliometric research be if based on lists of such inflated or phony references?

Some international journals intervene arbitrarily to revise the citations in articles they receive: I submitted a paper with my colleagues to an American journal in 2017, and one of the reviewers demanded that we replace references in Russian language with references in English. Two of us responded with a correspondence note titled 'Don't dismiss non-English citations' that we had then submitted to *Nature*: in publishing that note, the editors of *Nature* removed some references – from the paper² that condemned the practice of replacing an author's references with those more to the editor's liking – and replaced them with, maybe more relevant, reference to a paper that we had never read by that moment! If such replacements are done in a paper dealing with that very practice and that too by such a prestigious journal as *Nature*, what could we expect from less exalted journals? They could at least put both references.

Editors of many international journals are now looking not for quality papers but for papers that will not lower the impact factor of their journals. What makes me so sure of this trend? My correspondence with editors shows that some editors mistake methodological features for a consequence of 'specific local (Belarusian, Ukrainian, etc.) conditions', conditions that are supposedly 'not of interest to Western readers'. That lack of interest goes with not being read and thus not being cited—the inevitable outcome being a lower impact factor. In such cases, although the references are not tampered with, it is the inadequate understanding of bibliometric realities that distorts the editors' vision.

Researchers themselves also suffer because of the distorting influence of spurious or poorly understood bibliometric indicators on publishing, citation practices, and peer review. Ma and Ladisch³ note three such adverse effects: those on publishing manifest themselves (and are also noticed by the interviewed researchers themselves) include a focus on 'hot topics' to the exclusion of many other topics and the so-called 'salami' publishing (p. 4); those on citation practices include citing the 'required' papers without reading them (p. 5); and those on peer review are lower quality and longer turn-around time, the result of half-baked or at best inadequate understanding of bibliometric indicators that makes researchers reluctant to be reviewers because they begin to regard reviewing as an activity that brings neither recognition nor tangible rewards (pp 4–5).

To reiterate my point: forcibly manipulated references are neither a valid piece of evidence of information coupling nor a valid bibliometric indicator. What can be done to tackle the problem? Editors ought to be taught how to apply bibliometrics appropriately, and we, bibliometricians, should refrain from using any data from journals that manipulate references even slightly, as described earlier. Although I understand how to implement the second recommendation, I cannot think of any ideas about implementing the first—and hope that readers of *European Science Editing* and members of EASE will come up with many.

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