

# Way Too Many Reviews ...

... have been published over the last decade – and there's no end in sight. That seems to be a fact, which, in the meantime, has kicked off some sharp and interesting criticism from the research community. At least, in some science blogs, the issue has been extensively discussed lately.

For example, Steven Wiley from the Pacific Northwest National Laboratory in Richland, Washington, who is a regular contributor to the US science magazine *The Scientist*, wrote the following in an essay entitled "Down with Reviews", "There has been a proliferation of review articles and review journals over the last decade, and it is easy to see why. Biologists find them useful to keep up with increasingly complex science, and publishers find them an easy way to increase the impact factor of journals."

Further on Wiley explained, "Review journals, such as *Current Opinion in Cell Biology*, [...] review an entire field of research at yearly intervals. These journals were a godsend for teaching because they not only gave a high-level description of the most important advances in a broad range of fields, they also provided detailed evaluations of the primary literature."

Accordingly, reviews might have certain values for teaching or learning about unfamiliar areas of research. But for one's own up-to-date research? Wiley also answers this point, "I rarely paid much attention to those [reviews] that addressed research in my own area. I was already familiar with the papers they discussed and usually found myself disagreeing with the author's interpretation or choice of 'important' papers."

Easy to imagine that this might well be true for the vast majority of researchers. If, however, reviews do indeed have so little impact on current research, then why are they generally cited to such a high extent? Especially, in the light of the community's coxex that authors should always cite the *original* papers, which include the *primary* data?

Wiley's explanation: "Personally, I feel that their high citation rate is due to their being used as a surrogate for the primary literature. Instead of referring to the original article that made a discovery, many authors instead cite a review that mentions the paper. [...] It is a very unfortunate situation when review articles are used as citation surrogates. It robs scientists of the citations that they often need to advance their careers and obscures the credit for scientific discoveries. Many trendy journals [...] encourage this type of citation abuse by placing severe limits on article size and refuse to exempt references from the word count. The easiest way to shrink your article is to cite a couple of reviews rather than a dozen papers."

Aha! So apparently, it's not only down to pure laziness on the authors' part when substituting a whole dozen original papers with one single review. No, to the same degree, the dubious space and reference-restricting policies of an increasing number of journals obviously contribute to the upward trend in writing and citing ever more reviews.

What else can go wrong as a consequence of such rigid reference limits is nicely illustrated by another blog posted by Jonathan Eisen, evolutionary biologist and Academic Editor

in Chief of *PLoS Biology*. In his blog "Tree of Life" he told the following story that had really happened to one of his friends: "[...] in the email he told me of a situation involving a recent paper in a high profile journal with a name that begins with the letter N. This paper did not cite some highly relevant earlier work of his in *PLoS One* and when he wrote to the author to politely point this out, he was told that the reference was basically removed for space reasons. I have seen this happen many times with a variety of journals and the explanation for some lack of reference to relevant work is always something like 'oh yes, of course we knew about that, but had to leave it out for space reasons' or 'well, you know, they only allow 30 citations, so we had to leave some things out'."

Okay, let's make it clear here once and for all: life science research is such a diverse field that it's impossible to generalise that every paper on earth can be built upon the results of not more than 25 to 30 references. Some work needs more than a hundred!

And besides, shouldn't it to be one of the journals' main jobs to provide well-meaning people with the ability to accurately reflect on whose "shoulders" they're standing? (Certainly, at the same time, one of the primary tasks of the reviewers must be to sort out unnecessary or undeserved references in order to avoid over-citation).

By setting up strict reference limits, the journals instead tend to devalue the reference system by leading one to believe that referencing a paper is nothing but a mere courtesy, as opposed to an obligation.

