



If a Retracted Study Falls in the Forest...

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Tell us this: If you saw a notice on a journal article that read simply “This article has been withdrawn by the authors,” what would you think? Would you feel well informed? Would you assume that the move was due to honest error? Fraud? How would you feel about other material in that same journal? Would you attempt to contact the authors to learn more? How far would you push the matter if you didn’t hear back?

What if you downloaded a paper in your field, read it, and cited it, only to learn after your paper was published that the study had been retracted, with no notification linked to that original abstract and paper? Would you take any action?

These are not imaginary scenarios. They describe a significant chunk of the thousands of retractions in the scientific literature, despite the fact that guidelines from the Committee on Publication Ethics (COPE) recommend that retractions should “state the reason(s) for retraction (to distinguish misconduct from honest error)” and “be linked to the retracted article wherever possible (i.e. in all electronic versions).”¹

The *Journal of Biological Chemistry*, published by the American Society for Biochemistry and Molecular Biology, is particularly fond of vacuous notices; the quotation in our first paragraph is from that journal. On the lighter side, many journals find creative—and amusing—euphemisms for the word plagiarism²—from the rather postmodern “approach” to writing to the bureaucratically

inclined “breach of warranties made by the authors with respect to originality.”

Why can’t journals speak simply and directly in these cases? When engaging in introspection, journals admit that legal threats are at the root of at least some of this vagueness.³ They also are quick to accede to authors, perhaps out of tradition, perhaps from a sense of obligation, who in many instances are allowed to write their own retraction notices. Those notices, not surprisingly, tend to say less rather than more. (We note here that this convention is quite rare in the real world. We’re not sure, for example, that a car insurance company would allow its customers to get out of a traffic accident with a letter that said “It wasn’t my fault.”) But we suppose that obfuscation is better than nothing. As Grant Steen, who studies research ethics, reported in 2010: “Journals often fail to alert the naïve reader; 31.8% of retracted papers were not noted as retracted in any way.”⁴

How can we square this with the great pride that science takes in being self-correcting? Acknowledging and publicizing mistakes—rather than sweeping them under the rug—should be an important part of that. It should be difficult, if not impossible, to cite a paper that has been retracted without knowing it has been retracted, and yet more than 90% of the time, when a retracted study is cited, it’s cited positively, as if it had never been retracted.⁵

1 <http://publicationethics.org/files/retraction%20guidelines.pdf>

2 www.labtimes.org/labtimes/ranking/dont/2013_07.lasso

3 www.nature.com/news/retraction-challenges-1.16023

4 <http://jme.bmj.com/content/early/2010/12/23/jme.2010.040923>

5 https://surgery.med.uky.edu/sites/default/files/retracted_publication.pdf

Part of the problem with “zombie” articles reflects a technology gap. While CrossMark could solve the awareness problem, many publishers either don’t use it or don’t use it optimally. But much of the matter stems from sheer laziness. Authors often are content to cite studies that they see cited elsewhere.

Failure to vet potential citations fully can prove problematic. More than that, it can be costly. In today’s climate of tight research funding, think of the waste that results from researchers chasing what they’d know were dead ends if publishers did a better job of informing readers of retractions. All too often, laboratories squander grant money and, perhaps more critically, the time of postdocs and other trainees, to start down avenues that turn out to have been shut down by discredited results. The faster those fruitless pursuits come to light, the less damaging the impact on coffers and careers.

All of this is why we’re creating a retraction database, with the generous support of the John D. and Catherine T. MacArthur Foundation. The database, which we hope to integrate seamlessly into citation management software and library databases, will be a resource for scientists in academia and industry—the latter of which have been sounding the alarm about lack of reproducibility⁶—as well as for scholars who study scientific integrity and retractions. Studies of retractions themselves are booming,⁷ as is coverage of the topic in the science and lay press—which in turn helps the scholarly analysis of retractions become more robust by providing valuable background information to researchers.⁸

If current trends continue, the database will grow steadily every year. Retractions jumped 10-fold from 2001 to 2010, from about 40 annually to about 400,⁹ and that trend has continued in

recent years, with the number between 500 and 600, by our count. That growth has far outpaced the growth in scientific papers.

Some see this as a sign of strains on the peer-review system, and on publishing itself. That may be true. But others suggest that the growth in the number of retracted articles is a good thing, at least mostly.¹⁰ The argument—which we find sound—is that retractions only represent a small fraction of the number of flawed or fraudulent studies, and that more retractions means more people are paying attention and trying to correct the literature. As Fanelli writes, “Editors and authors who proactively remove flawed publications from the literature should be rewarded for their integrity and held up as examples. Conversely, we should be highly critical and suspicious of those journals and fields in which papers are retracted very rarely, if at all.”

Indeed, we and others have long argued that the way forward is for publishers to embrace post-publication peer review, whether it happens on sites such as PubPeer.com or PubMed Commons, or through some other mechanism. That will, we hope, go hand in hand with the creation of new incentives that displace the all-powerful position of the peer-reviewed paper as the only currency of the realm when it comes to tenure, grants, and promotions. Science is a continuous process, after all, not one that happens only when a major paper is published.

Speaking of incentives: The rewards for those who are proactive are quantifiable. A 2013 study found that researchers who retract papers of their own volition for honest error may see a bump in citations to their other work.¹¹ Doing the right thing, indeed. Now if only we could convince journals and publishers to do the same.

6 www.nature.com/nature/journal/v483/n7391/full/483531a.html

7 <http://jmbe.asm.org/index.php/jmbe/article/view/855>

8 www.pnas.org/content/109/42/17028.abstract

9 www.nature.com/news/2011/111005/full/478026a.html

10 <http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1001563>

11 www.nature.com/srep/2013/131106/srep03146/full/srep03146.html