

Paper retractions do not induce citation mutations

Martin Fenner, Gobbledygook

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Dear Christian Specht,

Thank you very much for your detailed response in *The Scientist* to our previous letter regarding citation mutations. You clarified several issues that were raised in your original study, particularly that citation mutation rates have dropped significantly in the last 10 years (probably due to the more widespread use of reference management software), and that some citation mutations (e.g. 680→685 in Laemmli 1970) might be introduced not by citing authors, but by the citation database.

You rightfully point out that citation mutations indicate a much bigger problem: authors often do not read the publications cited in their work. I am not aware of any available direct data, but in an ongoing study Richard Grant is looking at this question (Do you read the papers you cite?). The preliminary data that Richard kindly made available indicate that more than 85% of authors indeed read the papers they cite.

In another study made aware to us by Noah Gray, Neale et al. (Neale 2009) used an elegant experimental design to address the same question. They studied lethal acquired mutations – retracted papers that in theory should no longer be cited – as an estimate of how diligent authors were reading the papers they cite.

The authors compared the number of citations of 102 retracted papers (starting 12 months after the retraction) to a control group of papers and found no difference in the average number of citations (26 vs. 27). Content analysis of a subset of citing papers indicated that more than 50% of citations used the retracted paper to support their own findings and less than 5% of citing papers mentioned the retraction.

These findings not only seem to contradict the preliminary findings by Richard Grant, but also indicate that journal publishers and citation databases may not be properly communicating paper retractions.

References

- Laemmli UK.** Cleavage of Structural Proteins during the Assembly of the Head of Bacteriophage T4. *Nature.* 1970;227:680-685. <https://doi.org/10.1038/227680a0>
- Neale AVV, Dailey RK, Abrams J.** Analysis of citations to biomedical articles affected by scientific misconduct. *Science and Engineering Ethics.* 2010;16(2):251-261. <https://doi.org/10.1007/s11948-009-9151-4>