Letter to The Scientist

Martin Fenner, Gobbledygook

September 20, 2010

Dear Scientist,

last week you published an interesting article by **Christian Specht** about Mutations of citations. Dr. Specht found more than 600 wrong citations for the paper by Laemmli (Laemmli 1970), which has been cited at least 88633 times according to Scopus.

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

I was intrigued by the "sequence alignment" in Fig. 1a which clearly demonstrated that point mutations at 2**2**7 and 68**0** are particularly common, and that some mutations are inherited between overlapping groups of scientists. Of particular interest is the "complete nonsense mutation" that attributes the citation to the journal Science.

However, the author failed to demonstrate that the citation mutations had a paper-not-found phenotype or whether they were simply silent mutations. Missing is also an analysis of whether the mutations

- originated with the paper authors (who by now should all be using reference managers that automatically import citations),
- were introduced by the publisher during manuscript production (many journals use tools such as eXtyles to check and fix citations in manuscripts), or
- first appeared in the scientific databases that stored the citations (Specht used Web of Science).

Of particular interest would be whether there is a decrease in mutation rate over time, as automated tools have increased the fidelity of the citation process, and whether any citation style was particularly prone to mutations (no citation style uses checksums). As a researcher I suggest that the burden of proofreading should rest not with paper authors, and that journal and database publishers invest in appropriate citation repair mechanisms. And please use the DOI, even the paper by Laemmli (Laemmli 1970) has one.

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