Minor, substantial or wholesale amendments: it's time to rethink changes to published articles and avoid unnecessary stigma

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*The present system of labelling changes made to published articles is confusing, inconsistently applied, and out of step with digital publishing. It carries negative connotations for authors, editors, and publishers. Is there a way to efficiently and neutrally flag a change to a published article in a way that says what happened that is separated from why it happened? **Virginia Barbour**, **Theodora Bloom**, **Jennifer Lin** and **Elizabeth Moylan** propose a new system for dealing with post-publication changes that focuses on moving away from the current, confusing, stigmatising terms, differentiating the scale of changes, and differentiating versions of articles. While some hold the view that post-publication corrections must be tied to punishment of "offenders", the role of journals is to be neutral, to maintain the integrity of the literature and not to punish researchers.*

Publishers have a multitude of systems in place to label any changes made to a published article, to flag a change to the reader, and to communicate something about the reason for that change. But are readers well-served by the current systems and the vast array of terms in use (from "comment", "addendum", "erratum", "corrigendum", "correction", "editor's note", "expression of concern", "partial-retraction" through to "retraction")? We feel that the present system is confusing, inconsistently applied and out of step with digital publishing. There are negative connotations involved for all parties (authors, editors, publishers) associated with making any post-publication change, but this is particularly the case with retractions – even when done for reasons that are entirely laudable. Moreover, on many occasions it can be clear that an issue has arisen with an article which readers need to be alerted to but editors and authors have to wait for the outcome of an institutional investigation, leading to significant delays to any posted changes. Is there a way to efficiently and neutrally flag a change to a published article (i.e. *what* happened) which is separate from the cause (i.e. *why* it happened)?

What are you proposing?

Our proposal envisages a unified and neutral system (free from stigma or blame) to flag any changes to an article in a reasonable timeframe. Such a system would use linked versions and associated explanations so that readers would always be directed to the most current version and be able to access earlier versions (as is the case, for example, with F1000Research). The aim is to maintain the integrity of the literature and allow readers to be alerted to any (potential) changes as soon as possible but without having to wait for the outcomes of an institutional investigation. Of course, it is essential that investigations into potential misconduct happen, that they should be rigorous and transparent, and information from them should be linked to the factual account of what the issues are with the article itself. This information on the cause can be decoupled in time from what the issue is that readers need to know about. An analogy might be what happens in a recall of a consumer product because of a safety issue. The recall happens first, saying what the issue is – the “what”. The “why” – how the safety issue arose – often comes much later.

There are three main points to the proposal: nomenclature, scale and versioning.

- Refer to any post-publication change as an **amendment** (to move away from current terms, which are confusing and can be inappropriately stigmatising, to a neutral term).
- Differentiate between the **scale** of amendment with three classes (giving relevant explanation where possible):
  - *Minor amendment:* equivalent to a minor correction (e.g. typo in volume of reagent used).
  - *Substantial amendment:* equivalent to a major correction (e.g. a figure is wrong; a revised figure is included and the conclusions do not change).
  - *Wholesale amendment:* equivalent to a retraction (e.g. the article is plagiarised).
- Differentiate between **versions** of an article, each with its own set of metadata registered and linked together using existing scholarly infrastructure provided by Crossref.

Given the frequency and ease with which an online article can change, and become a “living document” as opposed to something “final” and set in stone, we feel that now is the right time to rethink how changes to an article post-publication are framed. It’s great to see people actively proposing various approaches and willing to discuss the issues. For example, Daniele Fanelli’s system for self-retractions for honest error; *The Lancet’s* retract and republish; *JAMA’s* retract and replace; and *Retraction Watch* calling for retractions due to publisher error to be renamed. However, these proposals address certain specific issues post-publication, whereas we would like to address all forms of post-publication change.

What’s the reaction so far?

We are grateful for the feedback we have received so far (see comments here and here; interview with *Retraction Watch* here). Many see the value in clarifying current terminology and reducing stigma but would like to retain a separate term for retractions due to misconduct. There seems to be a strongly held view by some individuals that correcting the literature must be tied to punishment of “offenders”. However, we feel strongly that this should not be the case and it is worth noting that retractions have never been intended for that purpose. More practically, we know that editors often never fully know what the cause of a retraction was as they do not conduct investigations themselves (this is the responsibility of the institutions), and may not even be privy to final outcomes of such investigations – for example because of issues around employment law. While extremes at either end of the spectrum of behaviour can be recognised (from honest error to misconduct), there are shades of grey in between. If fraud occurred, and is known about, then by all means this should be reported in a wholesale amendment and the reader should know the findings do not stand. But if an investigation is ongoing, or even concluded and confidential, we suggest that posting a "substantial amendment" in neutral terms alerting the reader to an issue is of huge potential benefit to readers. Another substantial amendment could follow in due course, or perhaps a wholesale amendment depending if and when the findings of an investigation are known.

Others wondered if the same problems will persist as already exist in the current system. For example, when to use a minor amendment versus a substantial amendment versus a wholesale amendment? Could we move towards just one category, "amendment", and allow the reader to decide on the scale of change for themselves? Or is there merit in having three classes?

Other comments included recognition of the value in decoupling the process of investigating misconduct from flagging potential issues to the reader, but are unclear how this would work in practice. It would be valuable to have institutions comment on the proposal. For example, would institutions be willing to supply further detail for a subsequent amendment to an article when more information becomes available? This could be in the form of links to and from an institutional website, which need not delay the process of alerting readers to a potential issue.

What's next?

Ethical issues in publishing happen for many complex intertwined reasons, which are the subject of many lively discussions. The community needs time to reflect on what we are proposing in the context of the wider publication ethics landscape, and what is really needed for the optimum communication of changes to articles post-publication. We feel the role of journals is to be neutral, to maintain the integrity of the literature and not to punish researchers. It is the role of institutions to conduct investigations and consider sanctions if appropriate. We envisage a future in which readers will become more comfortable with, and even expect, many changes being rapidly applied to articles post-publication; where there is less immediate emphasis on why something happened, and more of an emphasis on reading amendments for the latest information.

We welcome constructive dialogue and feedback across the diverse set of stakeholders in the research ecosystem.

This blog post is based on the authors' preprint article, "Amending Published Articles: Time To Rethink Retractions And Corrections?", available at bioRxiv (DOI: 10.1101/118356).

Note: This article gives the views of the authors, and not the position of the LSE Impact Blog, nor of the London School of Economics. Please review our comments policy if you have any concerns on posting a comment below.

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