

100% Real-time publication: an experiment in #opennotebookscience

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I've long been an advocate of open notebook science. In my advocacy, I am always looking for new ways to encourage fellow researchers to pursue this methodology for their own research. The latest of which pertains to archival and citability.

The ability to receive credit for your research, has been a requirement of science culture for quite some time, and is presently essential to an academic career. The altmetrics movement has been a valuable way to track and receive academic credit for new and nontraditional publication methods. Online tools like Impactstory help to track these activities, while tools like Figshare help propagate data and track your online impact as well.

This has always been missing from open notebooks.

I've always advocated against the need for a singular open notebook platform for the reason that ONS needs to have the flexibility to meet the needs of the scientists who use it. I've also never actively pursued a tool that can provide that formal citation credit since there are APA, MLA, etc rules for citing websites and other online resources. But the success of Figshare and other software has made me rethink this approach.

If open notebooks could have an automatic way to apply either a handle or a DOI, and could be archived, I think people would pay attention. If there was a publishing platform that could freely contain all the information of an open notebook, give the notebook a DOI (for instance) for each entry, and then host the final publication for peer review, there would be an even bigger incentive for ONS. And obviously there would be more transparency in the research process.

Where am I going with this?

Well a few days ago, I did a search for "DOI for WordPress" and came up with [this](#), a plugin for a website called The Winnower. I had never heard of this organization so I went to the website and found a world of opportunity.

The Winnower, in case you are unfamiliar, is self-labeled as a DIY science publication platform that features a post-publication peer-review process to expedite and lower the entry barrier for publication. Once you submit your manuscript you can request a DOI for your article, which will undergo changes as you receive feedback for the publication.

The aforementioned plugin allows you to post blog entries (self-hosted WordPress blogs only for now) to the Winnower and receive DOIs, and with it the easy ability to be cited, for those entries. Integration

between an open notebook and the Winnower (or a platform like it) could be a huge step forward for the ONS movement.

Imagine being able to see the entire scientific record for a study contained in the same system. Even better, imagine being able to witness the development of the study in real-time, providing feedback to the experiment, and being active in its development. When it comes time for peer-review, the process should theoretically be quick, because the work should have been vetted. If it hasn't already, then it is relatively easy to review the prior work summarized in the publication, because it is all self-contained on the publishing platform (or the open notebook where the publication is).

In the interest of open science, I will perform an experiment. I will re-publish a series of notebook entries pertaining to one experiment and will write a paper based on that experiment. All of that will be published on the Winnower, since the mechanism is in place to cross-post from this notebook to that site.

The experiment I have in mind is the [Repeating Crumley](#) experiment that was the basis for my work on deuterium depleted water. It is the perfect experiment for this trial in ONS publication because the work turned out to reveal a mistake in the original study from the 1960's, and I also propose a correction to the methods.

The key to this ONS experiment would be to understand what would be required of an open notebook or publication system to be able to provide a complete, organized, and user-friendly documentation system, or at least what is required for proper interaction between an open notebook and a publication platform. Additionally I hope to demonstrate another benefit to open notebook science in an effort to encourage others to participate in ONS.

In the spirit of open notebook science, I will document my interactions here and possibly also on the Winnower, and then write another publication on the Winnower about ONS and the peer-review system.

You can follow the documentation process through my [Winnower profile](#).