

Please keep it simple

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Doing scientific research is becoming increasingly complex, both in terms of the tools and technologies used, and in the collaboration across disciplines and locations that is increasingly commonplace. While the way we write up and publish research is of course also very different from 25 years ago, I would argue that our tools and services haven't quite evolved at the same pace.

Of course there are important trends that enable what the Royal Institution calls *Science as an Open Enterprise*, most importantly Open Access, which has broken down many barriers for open collaboration. But very few organizations - commercial or non-profit - see it as their primary mission to make it easier for researchers to collaborate and produce great science, in the sense that everything else is secondary and this focus is really obvious to everyone.

The following are just some examples that make you laugh hard or cry out loud:

- Finding relevant scholarly content. Why is still so hard?
- Reading a paper. The majority of scholarly content is still not Open Access. It is embarrassing how difficult it can be to get the fulltext paper from a subscription journal - too slow, too expensive, and sometimes even crippled in functionality.
- Creating figures for publication. This process is still so painful that it hurts. And publishers often create artificial limitations in file type (TIFF or Postscript) and file size (10 MB??).
- Licenses for scholarly content. We don't need choice, but a few licenses that everyone understands and that don't hinder sharing and collaboration
- Secure login. I can use my Facebook or Google login almost everywhere, but as a scholar I have a different username and password at my institution, funder, the various publishers I submit too, and the scholarly services I frequently use?
- Citation styles. Why do we still have at least 3,000 styles?

Citation styles is a perfect example of a problem that should have been solved as soon as we made the switch to digital publishing. I can travel through half of Europe without showing my passport, and using the same currency, but I need to reformat citations every time I submit to a different journal? And I have to use the same tool for this as my coauthors, as the different reference managers

don't work with each other?

Too often there are other intentions at work in parallel. While notable, they sometimes stand in conflict with the goal of making a researcher's life easier. A perfect example is the manuscript submission process. In parallel to the tools getting better and easier to use, the demands on the author seem to be increasing at an even greater rate, both in the data and metadata he or she should provide, and in the work submitting authors are asked to do that traditionally have been done by publishers. Another good example are peer review and evaluation. The proportion of time spent doing research vs. time spent doing administrative work seems to be decreasing and not increasing.

I wish more people and organizations would stand up and state that keeping it simple is their primary goal.