Open the Floodgates for Online Feedback on Scientific Papers? Not So Fast

When I travel and speak with scientists and students from around the world and I mention my association with *ACS Nano*, I repeatedly hear energetic requests for American Chemical Society publications to allow online comments regarding individual papers, much like most major newspaper articles. Not surprisingly, it is predominately people younger than me (I'm 45), particularly graduate students, who are highly engaged and excited with research and long for a medium that would enable them to engage directly with other scientists who have read the article and with the authors themselves. I must admit that I find their arguments and reasoning compelling, and I have wondered what the outcome would be. While I use Twitter and Facebook, and now cannot imagine the world without tweets, I normally ignore the comments following news articles because the lack of order and coherence tries my patience, and they frequently represent extreme (and sometimes) angry, unconstructive viewpoints whose sole purpose is to vent in anonymity. But, for research articles that typically require a subscription and are quite specialized, maybe it could be a great move forward to draw the paper's audience into a lively discussion? As an author myself, the chance to answer questions from readers following publication of a paper, and to perhaps generate new ideas that we did not previously envisage, sounds intriguing. In addition, more general, accessible, and complementary summaries of our research papers could also enable outreach with broader communities, to get the message out as to what we are all doing. What is not to like?

I was therefore interested to read a thought-provoking paper that appeared in *Science* earlier this month entitled "*Science, New Media, and the Public*".[1] To quote the authors and summarize the article: "A better understanding is needed about how the online environment affects the communication of science information to the public." One point that jumped out was the uptake regarding the surprisingly dramatic influence of the online comments that follow a news article on a scientific topic. In the study they cite,[2] a balanced article on the emergence of nanotechnology was provided to two groups of readers, along with two corresponding but different sets of comments; one set had a neutral tone, and the other contained "uncivil comments" that the authors state included name-calling and other "content-specific expressions of incivility" (unfortunately, I did not have access to these comments to judge their flavor/color). Interestingly, the tone of the comments had a marked effect on the reader's judgment of nanotechnology—the views of those readers who were given the article with the name-calling and like were noticeably more polarized with regard to the potential risks of nanotechnology than were those whose article was accompanied by neutral comments. While I am doubtful that our typical ACS audience will resort to name-calling, this article does suggest that the online comments could have a more important influence on the perception of the science in the article than we might surmise. Could good work end up being discounted because of a string of negative and unfair online comments? I try to profess that I am free of bias, but as a member of *H. sapiens*, I have to face the fact that I must be subject to my own set of biases. I therefore worry a lot about this.

The experiment of online comments accompanying scientific articles is, however, already underway at *PLoS ONE* (www.plos.org). For each article, one can click a link to the abstract, results, and discussion, and other typical anatomical pieces of a paper, but one can also link to reader comments. Because the reader comments require a distinct "click" to view them, perhaps this small activation barrier is useful as a reader cannot be subject to inadvertent reading of the online comments. In addition, *PLoS ONE* accumulates a variety of article-level metrics for each paper, including not only online comments but also PDF download counts,

Published online January 22, 2013
10.1021/nn400152h

Scopus, Crossmed, blog references by Nature Blogs and Bloglines, and many others that are of use to authors, social scientists, and interested observers of the spread of scientific information.[3,4] These statistics may indeed be crucial for understanding how to relate to nonscientific communities, government, and the general public, particularly in an age when people are obtaining much or most of their scientific information online in the world of Web 2.0.[1]

To summarize, I am very curious to see the results of *PLoS ONE*'s experiment. These are important discussions that relate to the dissemination of science in an environment that is not limited to the primary scientific literature, and we are following closely to see what is learned. In the meantime, please keep reading on www.pubs.acs.org, follow us on Twitter (@acsnano), and send us your thoughts.

Disclosure: Views expressed in this editorial are those of the authors and not necessarily the views of the ACS.

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