

# Science, red in tooth and claw

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Published August 19, 2013

## Citation

Brembs, B. (2013, August 19). Science, red in tooth and claw. *Bjoern.brembs.blog*. <https://doi.org/10.59350/e853t-00q12>

## Keywords

Blogarchives, Open Access, Sabotage, Stress, Tenure

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During my [flyfishing vacation last year](#), pretty much nothing was happening on this blog. Now that I've migrated the blog to WordPress, I can actually schedule posts to appear when in fact I'm not even at the computer. I'm using this functionality to re-blog a few posts from the [archives](#) during the month of august while I'm away. This post is from [September 30, 2010](#):

I've been [contemplating](#) the current competitive state of science here [before](#). The gist of it was that science may be suffering from too much competition, leading to an increasing incidence of misconduct, such as falsifying or omitting inconvenient data. In this week's *Nature* appeared a [news-report](#) which tells me that apparently the pressure cooker which is our scientific community apparently has been set to a notch hotter recently.

The article is about the sentencing of a postdoc who has been sabotaging the work of a graduate student in his own lab for several months. The postdoc has admitted – after being caught on secret camera – to have poured ethanol in the culture medium for the cell culture of the graduate student as well as contaminating Western blots of the student.

In my previous posts I speculated that fraud and other, related misconduct may be on the rise as more and more trained scientists are faced with less and less positions for which they compete. I did not expect this form of misconduct and neither did anybody else: sabotage is not officially part of the canon of research misconduct and thus no federal agency was able to prosecute the perpetrator.

As all of the cases which make it into the media, this is another anecdote and the plural of anecdote is not data. Nobody knows if the frequency of misconduct is rising or if the publicized cases simply come with the growth of the business. Nevertheless, this form of direct sabotage of researchers by researchers seems to be a novel quality of competition-induced research misconduct.

What will we see next?

Hot on the heels of the stunning sabotage case comes a seemingly unrelated [report in The Scientist](#) that US libraries are forced to cut scientific journal subscriptions by the thousands due to budget cuts:

*New Mexico State University (NMSU) library announced the cancellation of over 700 journal and database subscriptions, the result of a perfect storm of rising journal prices and a slashed materials budget. [...] A [2009 global survey](#) of 835 libraries in 61 countries found that nearly one-third of academic libraries saw their budgets reduced by 10 percent or more that year. And journal subscriptions are taking the brunt of that loss: The University of California at San Francisco (UCSF) cancelled [118 print and 115 online subscriptions](#) for 2010, as well as several databases (including [Faculty of 1000 Medicine](#), publisher of The Scientist). Last spring, the University of Washington announced cuts of [1,600 print and electronic journals, databases, and microforms](#). The University of Virginia library sliced [1,169 journals](#), the University of Arizona downsized by [650 print and electronic titles](#), and Georgia State University cut 441 and is now considering the fate of [another 1,092](#). The list goes on and on.*

While on the surface these two reports seem unrelated, they in fact demonstrate the coming scientific system: too many highly trained scientists competing for a position in a system that is so cash-strapped that even access to the literature is threatened. Access to the literature is the most basic prerequisite for doing science. One of the quotes in the article demonstrates that: "I need the EBSCO databases like I need air or water!"

[Just as now access to drinking water is a human right, access to the literature should be a scientific right.](#)

German psychologist Bally in the 1940s and later ethologist Hasenstein in the 1970s coined the term "eased-up field" (entspanntes Feld) for a situation where all the basic needs are satisfied. They found that exploratory or playful behavior decreased in virtually all subjects tested, be it human or animal, whenever the animals were not in an eased-up field. Currently, science almost on a world-wide scale is heading towards a situation in which each scientist's livelihood is threatened as well as one of the basic prerequisites for doing science, access to the literature. Neither of these trends alone bodes well for the quality of future science, but both trends together serve to basically block the emergence of the creative genius required for major scientific breakthroughs.