

Scooping up the Competition

It's not so long ago that we lost a few words on competition and being scooped in our Editorial (see *Lab Times* 06/2008 and 02/2009). Due to a fairly recent story on scientific collaboration, however, we'd like to take them up with you here again.

At the centre of the story is Sean Cutler, an assistant professor of plant cell biology at the University of California, Riverside. He is lead author of a recent *Science* paper describing the identification of a plant hormone receptor, which very likely constitutes the key player in inducing the drought stress response of plants. The scientific content, however, is not the reason why, during the last few weeks, Cutler has become a sort of 'good guy of scientific competition'. It is rather the story of *how* the whole paper finally came to be published.

So, what did Cutler do? Here's how he himself told his story in an interview with Janet Stemwedel for her blog 'Adventures in Ethics and Science', "After several years of work, I found myself sitting on a major discovery in one of the most competitive fields in plant biology. 'Competitive' in science is usually a code for 'cut throat', and can be associated with scientists who abuse their power to get ahead unfairly. I thought to myself – what is the one thing that those 'cut throat' types would *not* do in my situation – because I really don't want to end up like them. [...] That got the ball rolling."

And where did the ball finally roll? Cutler again (this time taken from his post at the *New York Times* blog 'TierneyLab'), "Instead of competing with my competitors, I invited them to contribute data to my paper so that no-one got scooped. I figured out who might have data relating to my work (and who could get scooped) using public resources and then sent them an email. Now that I have done this, I am thinking: why the hell isn't everyone doing this? Why do we waste taxpayers' money on ego battles between rival scientists? Usually, in science, you get first place or you get nothing but that is a really inefficient model when you think about it, especially in terms of the consequences for people's careers and training, which the public pays for."

In the end, apparently everybody was happy. At least if you believe Cutler's words. At 'TierneyLab' he wrote, "The 'little experiment' I did was an exercise in this form of ethical competition. Yes, I could have rushed to the finish line as secretly and quickly as possible and scoop everyone, but I like to play out scenarios and live my life as an experimentalist. By bringing others on board, I turned my competitors into collaborators. The paper is better as a result and no one got scooped. A good ethical choice led to a more competitive product."

I think now you can understand why many are currently praising the young American as a shining example of an ethical scientist. Many – but not everybody. Some have remained sceptical. For example, Arthur Hunt, professor in the Department of Plant and Soil Sciences at the University of Kentucky, who, in a comment at Stemwedel's blog queried, "I wonder if he'd have

been so sanguine about this procedure if one of his rivals had contacted him first saying they'd like to publish his data and offered him a co-authorship for his trouble."

A reasonable objection. In this case, however, Cutler apparently had never been in danger of making any likewise experience. In Stemwedel's interview he stated, "I sent emails out to people who I determined were sitting on the same jackpot discovery as me, but I gathered that they didn't realise it."

What does that mean? Obviously, Cutler was, in fact, leading the race. Therefore, the five competing labs were generously offered the chance to get in on a *Science* publication on something that they may not have even realised they had. But at least they were offered a ride on the bandwagon with their data on the 'winning paper', instead of otherwise coming in second, third, fourth. It would be really interesting to hear what the competing labs, whose contributions Cutler won, have to say ... as well as those who passed up the offer.

Don't get us wrong. Of course, Cutler's decision not to try to rush in first but to collaborate and co-publish with his competitors was unusually honourable in these dog-eat-dog days of 'publish or perish'. However, the devil lies in the details. And,

in the 'Cutler case', obviously all puzzle pieces apparently fitted together quite nicely so that finally a positive and harmonious picture of scientific collaboration emerged.

The 'Cutler scheme' of scientific collaboration, therefore, apparently is case-dependent. Surely, there are lots and lots of cases where this kind of teamwork, instead of competition, would save many researchers from the unnecessary and undeserved experience of being scooped. Not to mention the fact that most of these cases would, without doubt, result in even more robust papers.

However, there are very many other cases where collaborations just don't work, mainly because of the well-known 'too many cooks spoil the broth'-problem. And there is a multitude of even more, completely different, examples, where research really did move forward at a much faster pace than it otherwise would have, precisely because competition was the main motivator.

Let's close, therefore, with the following Solomon-like comment posted by an anonymous author at 'TierneyLab'. "Cooperation and competition each have different roles. Competition increases the incentive for each individual or group to produce quality output, while cooperation reduces the total cost to society by avoiding replication of effort. Both have their place, and that is why scientists today cooperate sometimes and compete at other times."

