

## A conflict of interest

Can scientists be objective if they stand to gain financially from the result?  
It's time to draw a line between academia and commerce, says Sheldon Krinsky

THEODORE POSTOL, physicist and weapons expert, has been at the centre of quite some controversy this past year.

In the mid-1990s, the Pentagon's Missile Defense Agency (formerly known as the Ballistic Missile Defense Organization) tested some special sensors developed by a company called TRW. The sensors were designed to distinguish between simulated nuclear warheads and dummy warheads of the type an enemy might use as decoys. Then, as now, TRW scientists said the sensors performed better than expected.

Having examined the original measurements, Postol disagrees. He alleges not only that the original tests were flawed but that a branch of the Massachusetts Institute of Technology, where he himself is based, failed to expose the flaws when it was commissioned by the Department of Defense to look into the test results. MIT and TRW deny this, and an internal MIT investigation is now under way.

Whatever it concludes, the conflicts of interest are obvious. Company scientists who test such technologies do not don magic blinkers that blind them to the commercial significance of their findings for their employers. And MIT researchers called upon to assess a Pentagon study cannot erase from their consciousness all knowledge of how much Pentagon funding MIT receives. Whoever is vindicated on the particulars, the science purporting to back the original sensor claims could never be described as disinterested.

As commerce and academia become entwined, "disinterestedness" is on the wane throughout science. Commercial activity has always existed in American universities, but in the past the types of for-profit ventures and faculty entrepreneurs acceptable to most universities were limited by norms that recognised the different aims of commercial and academic institutions. For their part, many corporations shied away from university partnerships because there was no assurance that trade secrecy and intellectual property

rights over the fruits of such research would be protected. All that has changed following a string of government policies and partnership incentives introduced in the 1980s.

Despite this, scientists, on the whole, remain dismissive of the idea that financial and funding ties distort their work. John Ziman, Fellow of the Royal Society and scholar of the social systems of science, has written recently that in the modern university (what he terms the "post-academic" university) disinterestedness is no longer viable or necessary to protect scientific objectivity.

Yet studies are starting to confirm a "funding effect". Last week *The Journal of the American Medical Association* published evidence that randomised clinical trials were more likely to favour the intervention if funded by for-profit organisations. Earlier this year, the same journal published a meta-analysis of 37 trials that found "industry-sponsored studies were significantly more likely to reach conclusions that were favourable to the sponsor than were non-industry studies".

Journals, professional societies and universities are increasingly embracing transparency as the universal antidote to all this. Scientists and journals that fail to disclose conflicts of interest risk being admonished. This month, a debate erupted over an article in *Nature Neuroscience* about anti-depression therapies. Charles B. Nemeroff, the lead author, favourably reviewed a patch method that delivers lithium through the skin as well as two other therapies. But the journal did not disclose the author's financial interests in the therapies, triggering criticism from other researchers.

Some journals refuse to publish review articles by authors with financial ties to the subject. That, I believe, is the right approach. Disclosure merely legitimates the practice of mixing commerce with science and implicitly accepts the decline of disinterestedness.

It is also at odds with the way society addresses conflicts of interest in public

affairs. Imagine a judge disclosing that he has an equity interest in the for-profit prison to which he is sentencing a convicted felon, and that by augmenting his modest government salary in this way he can better serve the public interest.

Rather than making do with disclosure, we need to adopt principles that prevent conflicts of interest. The roles of those who produce scientific knowledge should be kept separate from those who stand to financially benefit from it. The scientists we rely on to assess toxic substances, therapies, drugs, consumer products – or indeed new missile defence systems – should not be drawn from the same pool of experts who have a financial stake in the success or failure of those products.

Anything less will lead in time to the public's trust in science and medicine suffering irreparably. Scientists will come to be viewed as just another group of stakeholders in an arena of self-interested parties seeking hegemony over the control of information. Some 60 years ago the sociologist of science Robert Merton wrote that disinterestedness is one of four norms of science. He was right, and we need to get it back. ●

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