

# Patriotism and publication

September 11, 2001, taught us a bitter lesson in the damage that can be caused by terrorists. No longer seen as being small groups of telegenic anarchists, the scaled-up version of terrorism that was inflicted on the USA made conflict a global activity. For many years before this event, the 'Cold War' distinguished those who were our friends from those who were presented as our foes. Now it is terrorism and the need to protect our 'homelands' that is the divisive concept. The Cold War era generated suspicion based only on nationality or, indeed, one's willingness to visit and work with those from the other side of the 'iron curtain'. After this rusted into a derelict fortress, we found that these countries were, in fact, populated by reasonable, ordinary people similar to ourselves. Perhaps we will reach such an understanding of the world again in the future; but in the interim, we have to live with the possibility that weapons of mass destruction could be used to wreak even greater havoc than did the use of two jets as missiles against the innocent. And we biologists are close to the methods that could be used to build such weapons. Therefore, in this new climate, we are being subjected to new and unaccustomed scrutiny.

Of particular concern is that the research we perform might (unwittingly) help terrorists make 'better' biological weapons. There is a long list of examples arguing that nature has already done a spectacular job of making horrific options available to those who wish to ignore the warning on the lid of Pandora's box. But this has not stopped moves being made to introduce controls on the material that we publish. A recent meeting brought together the editors of some journals to debate the best mechanism for achieving this goal. The responsibility was deemed to remain at present in the hands of the editors, who vouchsafed to monitor material for its potential misuse by terrorists. This is all well and good, but what will happen if a journal publishes a paper that is judged to contain

information that could be construed as sensitive? Indeed, how is this measured, and is anybody monitoring such things at present?

The publication of certain data, such as the construction of a strain of anthrax with new properties, would clearly justify such attention, but a more intrusive definition of potential danger could bring many topics of research, and not just single papers, into the realms of questionability. One could envisage all aspects of pathogenesis—including the role of the host cell, virology, microbiology, parasitology, mycology, and so on—as suddenly being worthy of scrutiny. But this could also be readily extended to neurobiology, in which new targets for chemical warfare might be revealed, or genomics, in which pharmacogenetics could define target groups. Once the principle that it is reasonable to control and censor the publication of scientific work is accepted, the outcome can only be destructive. Science needs openness to thrive and to advance our knowledge to the benefit of our fellow citizens. For me, it follows that research of *scientific value* should be published and, indeed, a moment's reflection shows the futility, and the dire consequences, of trying to control the flow of information.

The reality is that every topic potentially generates useful pointers for the clever terrorist. And this is a suspicion that could lurk in the minds of a controlling, protective governmental agency. Sending subtle messages to key editors is obviously inadequate as a protection mechanism—there are too many journals to influence, and the rejected material could benefit from the current spirit of open access and find its way onto an increasingly receptive and 'Googleable' World Wide Web. Nonetheless, those concerned about the leak of scientific data may feel that high-visibility 'damage' can be avoided, in the name of patriotism, by promoting an atmosphere in which author-censorship is extended to the censorship of papers by reviewers. But this may soon be seen by controllers as inadequate. Clever

terrorists could populate 'useful' laboratories with postdocs. A view could develop that this should be controlled and stopped. It seems, from anecdotal information, that this is already starting to happen as the nationality of postdoc applicants is increasingly causing reflection before acceptance. And, of course, scientists love to talk about their latest research results, and the larger the audience the better. Clearly, scientific meetings are another potential source of information that, from a paranoid perspective, could be monitored. Again, there is anecdotal evidence that this is happening already, at least for those who wish to attend a meeting in another country and find that there are delays in processing their visa. In developing such scenarios, attempts could go further to control information even after it is published. MEDLINE and PubMed are the arteries through which information flows to nourish the scientific body. Being governmentally owned, they could easily be constrained to introduce some selectivity in the material they make available or, indeed, to monitor those who search for material using sensitive keywords.

All of the above might not happen. It may be an excessively negative extrapolation from some reasonable concerns expressed by those who have the responsibility to see the bigger and occasionally bleaker picture. But we should be wary. Patriots have the habit of letting their flag unfurl into their eyes, such that they cannot see an alternative position, and of listening to their national anthems rather than to reasoned arguments. We have to ensure that common sense prevails. In this way, we will continue to make progress in understanding life and, in the process, help to keep the boundaries between communities as low as possible. We will also ensure that our societies are civil and supportive and are great places in which to live and work, which ultimately is what life is all about.

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