

“Statement on scientific publication and security” fails to provide necessary guidelines

The “statement on scientific publication and security,” recently published simultaneously in *Science*, *PNAS*, *Nature*, and the American Society for Microbiology journals, states that journals will now have a policy in which editors will screen and, if necessary, reject manuscripts submitted for publication if “an editor . . . conclude(s) that the potential harm of publication outweighs the potential societal benefits” (1).

Clearly there are individuals, groups, and even rogue governments that would be content to use biological agents to infect and kill others as a means for political gain or as part of a general philosophy for causing terror. Most of the concerns raised about what is or is not sensitive information revolve around pathogenic microorganisms, toxins, and other factors associated with infectious diseases of humans, livestock, and plant pathogens. It is not a new problem. My quarrel is not that the editors agreed a course of action was necessary but rather what the editors failed to say or do on the subject.

The editorials accompanying the “statement on scientific publication and security” (2, 3) have been characterized as a tactical act of good citizenship. The statement itself and the accompanying editorials were notable for their failure to provide guidelines regarding who would make these decisions and what constituted a potential contribution to the activities of bioterrorists.

The editors and others associated with the statement make considerable comment about a scientist’s responsibility in an age of bioterrorism. Some 25

years ago guidelines were adopted by the scientific community that still apply stringent restrictions on genetic manipulation of many microbial pathogens, including the introduction of antibiotic-resistance genes into microorganisms where they do not naturally occur. These voluntary guidelines effectively halted a significant amount of research that government officials worry about today.

The Recombinant DNA Advisory Committee was established to provide ongoing guidance to the scientific community on matters of genetic manipulation that might adversely impact humans, animals, or agriculture. The editors might have suggested a similar advisory committee to help individual investigators and editors with the thorny problems of research deemed to be “too sensitive” for publication. Such an advisory committee should contain experts in infectious diseases, as well as members of the intelligence community. What might constitute these elusive sensitive areas of research? The editors state, “We cannot now capture it with lists or definitions.” Sensitive information might include alterations in bacterial virulence that could defeat vaccines, accelerate a disease course, delay diagnosis, or affect drug resistance. The issue of “dual technology” is also particularly problematic. Presumably there may be other areas of concern. Had the editors provided guidelines, the responsibility would be taken from them as the self-appointed regulators and placed where it belongs, with individual investigators. I do not seek more regulation, but I much prefer to have it my respon-

sibility rather than an anonymous editor who may not have the expertise to make an informed judgment.

Global infectious diseases offer a greater threat than bioterrorism to the security and economic stability of the United States and other countries (see, for example, www.cia.gov/cia/publications/nic/report/nic99-17.html). The recent experience with SARS and West Nile virus punctuates this fact. Nature’s bioterrorism is far more fearsome than man-made bioterrorism. In the concern to thwart bioterrorism, any advisory committee and those concerned with national security must not fail to weigh the fact that the bulk of research done on pathogenic microorganisms in the world and certainly those published in the scientific literature has as its goal the defeat of infectious diseases and its medical, societal, and economic burden. Any decision to suppress information must weigh this relative impact. What new technologies might be forthcoming has to be put in this context as well.

It is not too late for the editors and authors group to establish realistic guidelines and procedures to ensure that no real sensitive information be released to a handful of individuals who might misuse legitimate scientific research. It is an issue that should be earnestly discussed by the broad community of scientists, together with those whose mission it is to guard national security.

Stanley Falkow, *PNAS Editorial Board member* and Robert W. and Vivian K. Cahill Professor of Microbiology and Immunology and Medicine, Stanford University School of Medicine, Stanford, CA

1. Journal Editors and Authors Group (2003) *Proc. Natl. Acad. Sci. USA* **100**, 1464.

2. Cozzarelli, N. R. (2003) *Proc. Natl. Acad. Sci. USA* **100**, 1463.

3. Kennedy, D. (2003) *Science* **299**, 1148.