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Freedom of Inquiry: An Endangered Species

A series of events in recent months signals the need for attention and action by the scientific community. On the surface, the events appear unrelated, but viewed collectively, the ramifications of each have substantial impact on the future of scientific inquiry.

First, an active campaign has been launched by various individuals and groups to reduce, or ban altogether, the use of animals in scientific research. Initially, these factions rally against the sale and distribution of pound animals. This is an emotionally charged issue—the public readily identifies with the homeless animals because of attachments to their own pets. Legislation introduced to curtail the use of animals in research passed into law in Massachusetts in February. Although a similar measure was detected in the California legislature, the proponents may seek a public referendum. They may also seek to establish provisions for external review boards to make judgments concerning which research proposals involving animal experimentation are justified and which are not. Evidence thus far indicates that once the objective of banning the use of pound animals has been met, the advocates push on toward banning the use of animals from any source and for any scientific purpose.

The second concern involves the suit filed by Jeremy Rifkin to block the release of genetically engineered organisms into the environment. The case in question centers on a bacterium which, in its native state, serves as a nucleus for ice crystal formation. The removal of a single gene eliminates this characteristic. The next step was to have been the introduction of the modified bacteria into the environment of crop plants, replacing the native strain and reducing the potential for frost injury to plants. The restraining order against this, obtained by Rifkin *et al.*, is based on allegations that a National Institutes of Health review committee failed to conduct an adequate study and submit a satisfactory environmental impact statement. However, the basic issue is that many supporters of the litigation are fundamentally opposed to genetic engineering and seek to block application of the new technology.

Third is a suit brought by California Rural Legal Assistance, representing the California Agrarian Action Project, to block mechanization research in agriculture. One objective is to require the University of California to submit social impact statements on proposed research projects before they can be approved. This suit illustrates again the ways in which special interest groups attempt to regulate scientific research which they perceive is not beneficial to them. They do not accept the evidence that overall social and economic benefits far outweigh the costs.

Each case is individually controversial and each decision sets a precedent. Considered collectively, the impact can be overwhelming. It is essential, therefore, that members of the scientific community become active participants in the debates. Highly committed and articulate individuals and groups are presenting their cases to the public and the lawmakers without equally articulate rebuttal from scientists. Since litigation has become the method by which policy to constrain scientific research is decided, scientific societies may well need to invest—individually and collectively—in legal representation to present their views in opposition to such constraints.

As the National Science Board Commission on Pre-College Education recently concluded, it is critical that all students return not only to the fundamentals of reading, writing, and arithmetic, but also to scientific and technological literacy. In the interest of free inquiry and the advances that science has brought—and must continue to bring—to civilization, we must invest our energies on all fronts. To allow these and other antiscience activities to go uncontested would be unconscionable.—CHARLES E. HESS, *Vice Chairman, National Science Board, and Dean, College of Agricultural and Environmental Sciences, University of California, Davis 95616*