Letters

Animals in the Lab

Issues related to the use of research animals, while not new, have become amplified in recent years. William J. Broad's News and Comment article "Legislating an end to animals in the lab" (9 May, p. 575) gives an example. It also illustrates a common misunderstanding. Broad refers to "animal-rights activists and pet lovers" as though they are one and the same, which is not the case. In fact, the true "animal-rights" activist is against the use of animals for any purpose. On the other hand there are many pet lovers who recognize that animals are useful to humans in many ways, and they are pleased to share in the fruits of biomedical research done with animals.

Nonetheless, Broad's article should be a reminder to all of us that there are those who would deny the use of animals for any purpose; and they are very active, not only in the United States, but throughout the world. Bills similar to H.R. 4805 are currently under consideration in various Western European countries. The antivivisectionists appear to be more active than ever and are campaigning with literature filled with inaccuracies.

The scientific community should attempt to disseminate correct information. There is a genuine need to better inform the general public, including pet lovers, congressmen, and other reasonable people, of the great strides that have been made in improving health and the quality of life for both humans and animals through the use of research animals. They should be informed that the vast majority of animals used in research and testing do not suffer pain, and that when painful experiments are performed they are normally done with appropriate analgesics or anesthetics. They should be told that there are searchers for alternatives for economic as well as humane reasons, but that it is unlikely alternatives will greatly reduce the number of animals needed in research and testing in the foreseeable future. It should be pointed out that at this time the only *real* alternative to animals in the laboratory is a loss in the rapid gains being made in improving health. The public should know that the biomedical research community is concerned with those creatures entrusted to its care and is humanely treating animals used in the laboratory.

JOE R. HELD
Division of Research Services, National Institutes of Health, Bethesda, Maryland 20205

Broad's article about the Research Modernization Act is titled in a misleading manner. The stated purpose of the bill is to establish a center to develop and coordinate methods of research and testing that do not involve the use of live animals, to develop training programs in the use of these methods, and to disseminate information on such methods. While the humane goal of the bill is to greatly reduce the number of animals in the laboratory through the development and refinement of techniques in which animals are not used, the bill does not call for an end to animal research.

The Center for Alternative Research established by the bill would not be a "clearinghouse," as described by Broad, but would be composed of representatives of each affected agency and would provide for cooperation and coordination among the many federal research and regulatory agencies engaged in research and testing, enabling them to share information and build upon each other's work. This coordination and cooperation are among the criteria established by a Department of Health, Education, and Welfare (HEW) steering committee that proposed program initiatives for health research planning (*1*). Because the center would be directed by representatives of the affected agencies, its actions would reflect the scientific priorities of these agencies. The National Toxicology Program functions in much the same way now. It should be noted that a recent statement of health research principles by HEW said: "To assure that HEW health research is responsive to public concerns, the *public must participate* in the setting of research policies and priorities" (emphasis theirs) (*1*, p. 191). The enormous constituent response to Congress when H.R. 4805 was introduced indicates the degree of public interest in this matter.

With regard to publication in the *Federal Register*, the bill provides that the center shall publish in the *Register* such alternative methods "which meet the regulatory scientific needs of the agencies," which is not different from the present practice.

Because of the large numbers of scientists who have used animals in the laboratory for their entire professional lives, we realize that it is not simply "habit," the term used in the article, but professional orientation, which limits the resources now devoted to the exploration of alternative methods. With the encouragement of increased federal interest in this area of research, it is envisioned that more scientists will become attracted to the exploration and use of these techniques.

The article does not point out that the National Society for Medical Research (NSMR) has as its official purpose "protecting the rights of scientific investigators to utilize laboratory animals," and thus it is not entirely objective in its evaluation of this bill. Even with this bias, the NSMR's statement, as reported in the article, noted that "the expense, slow results, and poor reliability of animal tests is making alternatives more and more attractive. . . ."

The bill urges a direction to scientific research in which science has already begun to move, albeit slowly; it provides for a cooperative effort among federal research and regulatory agencies that is already embodied in HEW health research planning; it calls for implementation by the research agencies themselves through their representatives in the center; its severest critic agrees that there is value in the development of alternative methods. I feel the description of its effects upon scientific research as "catastrophic" is unfounded and not supported by the facts.

ELEANOR SEILING
United Action for Animals, Inc., 205 East 42 Street, New York 10017

References

1. *Health Research Activities of the Department of Health, Education, and Welfare; Current Efforts and Proposed Initiatives* (Department of Health, Education and Welfare, Washington, D.C., 1979), p. 84.

Required Technology Courses?

The resolution of complex technical questions is left by D. L. Bazelon (Editorial, 16 May, p. 661) in the hands of "elected representatives or public servants." The courts do not know enough to understand the issues on the frontiers of technology to render such decisions, he points out. One might add that neither

do the elected representatives or the public servants. Furthermore, the technologists do not understand the even more complex legal, social, and political issues in our rapidly changing world. Yet, it is the technologists who are asked to answer the final questions. It is they who are often blamed when things to wrong, as they sometimes do. And lately it is they and their producers who are threatened with legal punishment for failures.

The genie of technology has given us many benefits that we all share. We all should also share its failures. It is past time for schools of liberal education, including those that educate jurists, to *require* in their curricula courses which help nontechnical students to understand at least the general nature of the technologies of our modern world. Most engineering curricula now *require* a substantial portion of their studies to include liberal education. In both cases it is suggested that entirely new approaches be developed that will better acquaint the students with the overall nature of our technically based society with its ever more compelling human needs.

They who will make, govern, and judge in the future will then be better prepared to enhance humankind with decisions that are at once technical and human-value bearing. They will be more tolerant of the other person's dilemmas, and they will more willingly share responsibility.

JAMES R. JOHNSON
Institute of Technology,
University of Minnesota,
Minneapolis 55455

"Risky" Investments

I am the chairman of a task group established by the Advisory Council of the National Science Foundation to look into the adequacy of the process of funding of research proposals that are highly innovative but that also have a relatively high risk of failure. There seems to be a perception in some parts of the scientific community that highly imaginative proposals for research which are "off the beaten track" sometimes have difficulty in obtaining funding because scientific reviewers and agency officials are unduly conservative and tend to "play it safe."

We would very much appreciate having comments and views of the scientific community, including any knowledge of significant creative proposals for research that experienced difficulty in finding funding from federal agencies, as well as suggestions for improving the mechanism by which such proposals are handled. We are also concerned about the possibility that some worthy proposals may experience difficulty because they fall between different disciplines or divisions of a discipline.

The task group is in no sense an appeal mechanism, nor does it have any possibility of determining the merits of individual proposals, but is involved in suggesting ways in which the procedures and policies of the National Science Foundation can be most effective in fostering highly creative science in our laboratories and universities.

HALSEY ROYDEN
Department of Mathematics,
Stanford University,
Stanford, California 94305

Erratum: In the note describing the photograph that appeared on the cover of the 16 May issue of *Science*, and in H. Massey's *Atomic and Molecular Collisions*, from which the photograph was taken, the library represented in the photograph was misidentified. The library shown is that of the Royal Institution, London.