

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 go 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.

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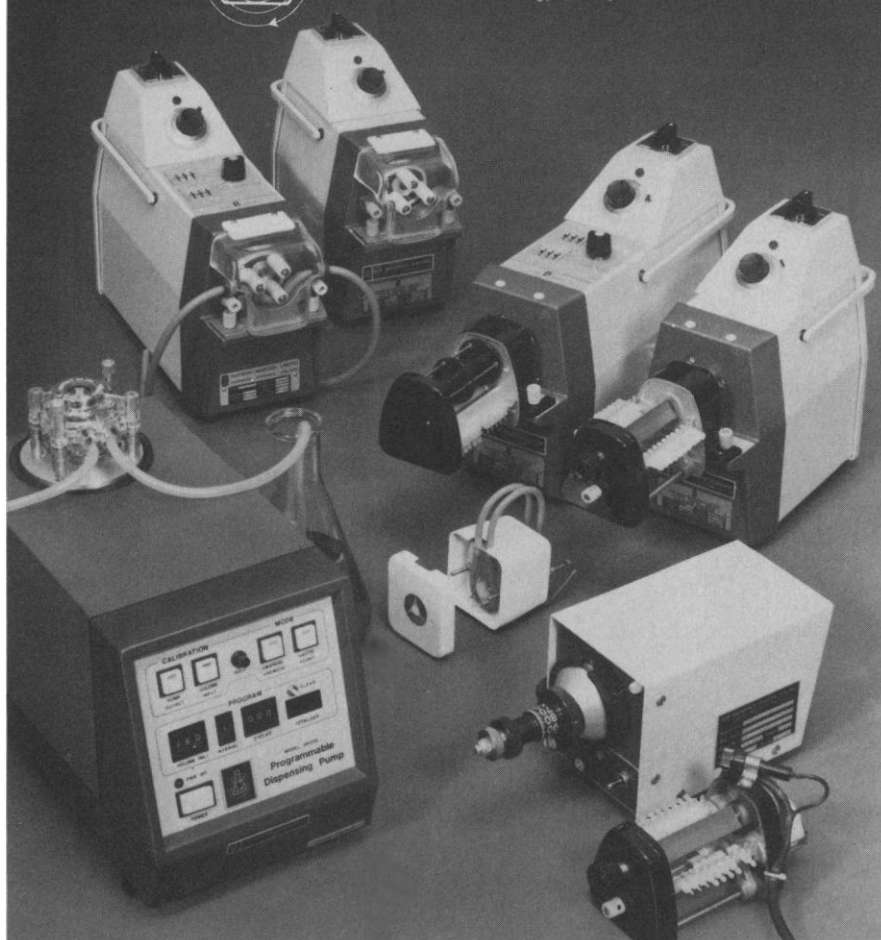
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"Risky" Investments

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.

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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.