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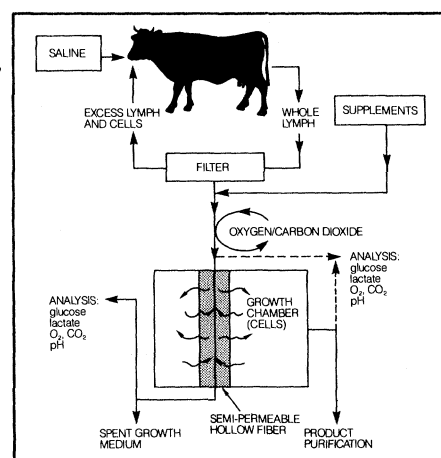
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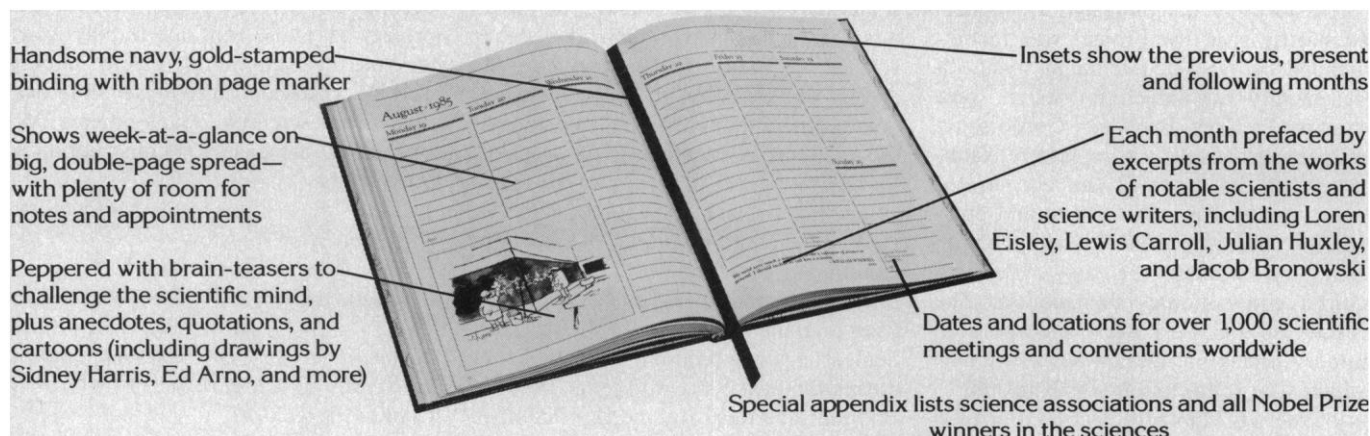
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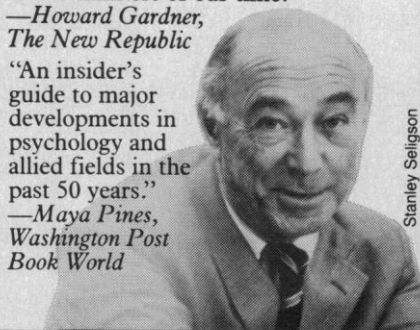
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Scientific Communications and National Security

The conflicting imperatives of national security and open scientific communication have been the subject of a vigorous and sometimes emotional national debate. Differing priorities have led to incompatible conclusions. In times of peace and security, the maximum freedom of speech and communication has served this nation well; in times of great peril, national security considerations have temporarily displaced those precious freedoms. In this period of world history when nations in competition may win or lose by their technologies, both in combat and in commerce, how should we order our priorities regarding national security and scientific communications?

We must begin by recognizing the distinction between science and technology, between knowledge and know-how. Nature yields her secrets to anyone imaginative enough to ask the right questions, regardless of nationality. All participants benefit in the testing of new scientific hypotheses and the exchange of scientific information. Nor can the flow of ideas be stopped at national borders. On the other hand, know-how is a precious commodity leading to the commercial or military products that determine the fortunes of nations in peace and in war. Yet sometimes it is hard to tell where scientific knowledge leaves off and engineering know-how begins.

The potential for unintentional disclosure of national security information through the publication of basic research results is virtually nonexistent, and the benefits of such an open publications policy far outweigh the risks. The treatment of university R&D more applied in nature has been the subject of intensive discussions between university and Department of Defense representatives in the DOD-University Forum over the past 2 years. (The forum participants are drawn about equally from the academic and defense communities.) To put the matter in perspective, about 80 percent of R&D on university campuses sponsored by DOD falls in the category of basic research. The discussions have therefore focused on the other 20 percent, only a very small fraction of which has been of security concern.

The forum discussions have contributed greatly in formulating new policy that will provide for completely unrestricted publication (without delay) of all unclassified fundamental research carried out in any laboratory (university or industrial). Henceforth, consistent with U.S. statutes, the primary way to restrict the publication of contracted fundamental research will be to classify it. (The rules for classification are well understood. The DOD currently has no classified basic research on university campuses, and this situation is expected to continue. The government's power to classify is not new; it has not been and will not be invoked on university campuses except in the rarest of circumstances involving special reasons of national import, and with complete prior agreement of the university involved.)

The quickest way to disseminate research results is through meetings, conferences, and symposiums, often sponsored by scientific and engineering societies. Many meetings held in the United States are international, and it is important to keep them so. For government sponsored or cosponsored technical conferences, admission should likewise not depend on nationality but only on security considerations—it is in the best interests of all allied countries to share their technologies to lighten the burden of mutual defense. I also believe that no unclassified technical conference requiring an invitation should exclude individuals from allied nations who can contribute to the success of the conference.

The freedom to publish scientific and educational material is vital for progress in science and engineering. Ultimately the relationships among academia, government, and industry will depend on the trust and understanding among the people who work together and depend on one another.—RICHARD D. DELAUER, *Under Secretary of Defense for Research and Engineering, Department of Defense, Washington, D.C. 20301*

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