• A possible agreement by both superpowers to suspend nuclear testing during a brief period preceding and following the review conference. Egypt's Ambassador Shaker claims that such a gesture would signify that the two superpowers "have decided to pay more attention to the pleas of the non-nuclear-weapons states for real progress in halting and reversing the nuclear arms race."

• Preliminary moves, which are not likely to enter the public spotlight until after the conference, to work toward a test ban through amendments to the Threshold Test Ban Treaty, which has been signed but not ratified by the United States. The support of 38 signatory countries is required to call an amendment conference. Promoters of this strategy feel it could offer an attractive political alternative for the Reagan Administration.

Any steps taken by the review conference toward a test ban will find some enthusiastic supporters—as well as critics—in the U.S. Congress. Senator Edward Kennedy (D–Mass.), coauthor of a resolution last year with Senator Charles Mathias (R–Md.) promoting a comprehensive test ban, told the colloquium that it was "critical that the NPT should be extended, not dismantled." In contrast, Senator Ted Stevens (R–Alaska) said that any signals from the Third World that they were not totally committed to preventing nuclear proliferation would be "counterproductive."

There were words of caution, too, from Representative Edward J. Markey (D–Mass.), an equally firm supporter of the test ban, who admitted in an interview that most members of Congress currently felt it was a "low priority" at the present time. However, suggests Markey, this month's review conference will give Third World countries "a real opportunity to put some pressure on the U.S. and the U.S.S.R. to take some serious steps toward disarmament or accept the consequences."—**DAVID DICKSON**

Sharing Research Data Urged

In 1975, an article was published purporting to show that eight murders are deterred every time a prisoner is executed. The data on which this conclusion was based were not generally shared with other researchers, but when others assembled data of their own they found that the conclusion was not valid. In the meantime, the original article was widely used in the debate over capital punishment.

The authors of a recent National Research Council study* use this example, among several others, to argue the case for increased sharing of raw data among researchers. Although their report is directed primarily toward social scientists, they contend that data sharing in other disciplines is also in need of improvement.

The report, which was published without fanfare several weeks ago, was the topic of a special session at the Joint Statistical Meetings, held in Las Vegas on 7 August. Prepared by a committee chaired by Stephen Fienberg, a statistician from Carnegie-Mellon University, the report casts doubt on the workings of what is popularly thought to be a central part of the scientific method: the sharing of data for purposes of verifying and extending research results.

Although data sharing is acknowledged by most scientists to be important, "many members of the scientific community are reluctant or unwilling to share their data even after publication of analyses of them," the report states.

Many factors tend to get in the way of data sharing. They include legal restraints, such as the obligation to protect the privacy of research subjects, commercial considerations, and technical problems in transferring data between different computer systems. In addition, substantial costs can sometimes be incurred in making data available to others.

However, the report also says there are attitudinal problems. "Researchers may be concerned about the qualifications of investigators requesting data and fear that poor reanalysis may require burdensome rebuttal or reflect adversely on original research." Moreover, the report continues, "Sharing of data involves loss of control over data, the purposes for which they are used, and the methods of analysis. That requests for the sharing of data are often met with delays and noncooperation is not surprising."

Ideally, the report says, researchers should share data by the time their major analyses are published, especially when the research has relevance to public policy. Investigators should also make data sharing an integral part of their research plan and they should keep data readily available well after the research is completed.

The report offers the following recommendations to encourage researchers to live up to the ideal:

• Organizations that fund scientific research should require applicants to guarantee data sharing or to justify explicitly in their proposals why sharing would be inappropriate.

• Editors of scientific journals should require authors to provide access to data during the peer review process, and they should give more emphasis to reports of secondary analyses and replication of original results. Editors should also require full credit and appropriate citations to original data collections.

• A computerized reference service for computer-readable social science data should be developed to promote the use of data that have already been collected.

Many benefits would result from more widespread data sharing, the report concludes. They include reinforcement of open scientific inquiry; verification, refutation, or refinement of original results; promotion of new research through existing data; encouragement of more appropriate use of empirical data in policy formulation and evaluation; improvements in data collection methods; protection against faulty or fraudulent data; and encouragement of the use of data across disciplinary lines.

According to Fienberg, "We have to change the mores of scientists themselves. We need to instill in the scientific community the ethical notion that data sharing is a scientific responsibility."—**COLIN NORMAN**

**Sharing Research Data* (National Academy of Sciences, 2101 Constitution Avenue, NW, Washington, D.C. 20418); $17.50. Committee members were Stephen E. Fienberg, Carnegie-Mellon University; Clifford G. Hildreth, University of Minnesota; Leslie Kish, University of Michigan; and Edward R. Tufte, Yale University.