Letters

European Computer Network

I wish to comment on David Dickson's article "Europeans look IBM gift horse in the mouth" (News and Comment, 5 Oct., p. 27), which discusses the European Academic Research Network (EARN).

The main goal of EARN is to provide the European academic community with a computer network for academic and public research institutions throughout Europe. The emphasis of EARN is on science, research, and education rather than on networking technology. We seek to interconnect the European universities rapidly and let the choice of network technology evolve in whatever way makes the most sense for the academic users.

Dickson's article emphasizes the obstacles and tensions in creating a Europe-wide computer network for the academic community. The problems encountered in this endeavor are not surprising and would arise with any European-scale project, which by definition crosses many borders and requires agreement among different national and European agencies. No serious argument with this enterprise has been presented by any informed European agency, nor have any of them said that IBM support of EARN is an attempt to promote the time-honored protocols of IBM's Remote Spooling Communication Subsystem. These have been the basis of the IBM internal network for the past 10 years and are also used by the U.S. university network BITNET.

Contrary to the statement in the article, IBM machines are capable of using public telecommunication networks, including X21 and X25. IBM was, in fact, one of the first manufacturers to offer X25 packet-switched network support and has once again recently reiterated its support for Open Systems Interconnections (OSI).

The Conference of European Post and Telecommunications has taken a positive position with respect to EARN, as have many of the national post and telecommunications authorities. They have described it as a starting point for an important European computer network that will evolve in the direction of public packet-switched networks and OSI protocols.

European universities should no longer be deprived of the same networking tools as their U.S. colleagues, and their response to EARN is impressive. In Germany alone, for example, more than 75 mainframes have been interconnected in 6 months, and the traffic is described as heavy.

We share the enthusiasm and sense of urgency of the European academic community and expect that before the end of the year all academic institutions throughout the Western world will be able to work together through EARN. This is clearly an important project for the European scientific and technical community-at-large.

We hope that the EARN-BITNET link will provide a significant contribution to European-American academic cooperation.

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Salmonella Food Poisoning

Marjorie Sun (News and Comment, 5 Oct., p. 30) has written a colorful story that recapitulates information readily available in the *New England Journal of Medicine (1)* and adds some speculations. She says that evidence "almost conclusively shows that the uncle's cattle became biological factories of drug-resistant *Salmonella newport* because they were fed low doses of antibiotic." Actually, the uncle's cattle were never tested, the feeding of antibiotic to them was not verified, and the shedding of *Salmonella* by farm animals has often been found to be decreased by antibiotics. The occurrence of *Salmonella* food poisoning long preceded the use of antibiotics and is controlled by appropriate sanitation and adequate cooking. Feeding antibiotics to animals has increased meat production by millions of pounds annually for more than 30 years. Sun refers to the report in *Science* by Holmberg *et al.* (24 Aug., p. 833). This report lists 18 outbreaks investigated between 1971 and 1983. Two outbreaks were investigated in 1982, one attributed to beef short ribs and the other to homemade ice cream. These may be viewed in the light of the fact that, in 1982, 4.2 billion pounds of hamburger were produced in the United States (*2*).

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References and Notes

1. S. D. Holmberg, M. T. Osterholm, K. A. Senger, M. L. Cohen, *N. Engl. J. Med.* **311**, 617 (1984).
2. American Meat Institute, *Meat Facts* (1984), p. 19.

Expendable Launch Vehicles

R. Jeffrey Smith, in his briefing about the National Research Council's report on candidate expendable launch vehicles (News and Comment, 21 Sept., p. 1375), implies that the panel supports a proposal by the Air Force to build expendable launch vehicles based upon "20-year-old technology as a competitor to the space shuttle." With respect to the technology of all candidate vehicles, the panel supports the prudent use of "proven" technology in all of the proposed candidates. The use of proven technology substantially reduces the development risk and increases the system reliability, a key requirement for military systems. Further, the panel does not view the proposed expendable launch vehicles as competitive to the Space Transportation System (STS), but, as noted in the findings, supports "continued strong efforts to develop the STS into a mature operational system." On the other hand, the panel does cite the advantages of an expendable launch vehicle as a means to more assured access to space complementing the shuttle, which by national policy remains the primary launch system.

Smith states that the authoring panel "included several former Pentagon officials and only one NASA official." In actual fact, the panel included two former NASA research center directors as well as a number of experts from the

aerospace industry and academia. With respect to the "Pentagon officials," they were two high-ranking, retired military officers, one of whom spent several years on assignment to NASA. My career has been primarily in academic areas rather than defense.

Smith writes that the panel claimed "a meaningful comparison of costs [of the three candidate vehicles] was impossible in the 5-month study period." Actually, the primary reason for not including a cost analysis, as noted in the panel's report and in Smith's final paragraph, was that a formal procurement action for a backup expendable launch vehicle was initiated by the Air Force shortly after this study was commissioned, thus preventing the panel from having access to detailed, accurate cost information from the bidders about the competing designs.

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Panel to Assess Candidate Expendable Launch Vehicles for Large Payloads, Committee on NASA Scientific and Technological Program Reviews, National Research Council, Washington, D.C. 20418, and *School of Engineering, Southern Methodist University, Dallas, Texas 75222*

Besides Fossum, a former director of the Defense Advanced Research Projects Agency, the panel included Ivan Getting, a former president of the Aerospace Corporation, a major Air Force missile contractor; Richard Henry, a former commander of the Air Force Space Division; Thomas Morgan, a former commander of the Air Force Space and Missile Systems Organization; Gordon Reiter, a program manager for space and communications at Hughes Aircraft, which builds satellites for the Air Force; Edgar Cortright, a retired president of Lockheed, another Air Force contractor; and three others.

—R. JEFFREY SMITH

Nuclear Weapons Policies

We have recently surveyed 100 major American scientific associations concerning their policies on nuclear weapons. Of the 48 respondents 11 have charters that preclude their making editorial statements on such issues. Of the remaining 37 responding organizations, eight have adopted statements urging both the United States and the U.S.S.R. to halt, or substantially limit, the testing, production, and deployment of nuclear weapons. These eight organizations are the American Institute of Aeronautics and Astronautics, the American Physical Society, the American Physiological Society, the American Psychological Association, the American Society for Cell Biology, the Association of American Geographers, the Federation of American Societies for Experimental Biology, and the Natural Resources Defense Council. These organizations represent nearly a quarter of a million American scientists. Similar editorial statements are being considered by the Ecological Society of America and other scientific associations. We did not survey engineering and medical associations or scientific associations with fewer than 1000 members, several of which have adopted similar statements. It is becoming clear that a large proportion of America's scientists disagree with this nation's nuclear weapons policy. We therefore urge the current Administration to seriously consider the recommendations of these scientific groups with respect to nuclear armaments policy.

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John Shaw Billings

This year marks the 100th anniversary of one of the world's great collections of scientific instruments, the Billings Microscope Collection at the Armed Forces Medical Museum in Washington, D.C. In 1884, John Shaw Billings began obtaining microscopes to show future generations how the microscope came to be an implement of science. The collection contains about 800 microscopes and accessories, including microtomes and illuminators, dating from the early 17th century to the development of electron optics. Portions of the collection are to be shown at the IBM Gallery in Manhattan this winter and in other parts of the country over the next 2 years.

We are seeking information concerning Billings and his scientific endeavors. Billings, who was director of the Surgeon General's Library early in the Civil War, established or nurtured the scions that became the Armed Forces Medical Museum, the Armed Forces Institute of Pathology, and the National Library of Medicine, as well as the records that led to the creation of the Veterans Administration. In addition to shaping the world's medical literature, Billings had keen scientific interests, and some of his prolific and enormous correspondence dealt with experimental medicine. Information or documents concerning John Shaw Billings or the microscope collection would be welcome and acknowledged by the National Library of Medicine and the Armed Forces Medical Museum.

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Lake Baikal: U.S.–Soviet Cooperation

We have recently returned from a collecting expedition to Lake Baikal conducted jointly with the Limnological Institute, Siberian Branch of the Academy of Sciences of the U.S.S.R. While concern about possible pollution of the lake has received attention in the West (*1*), our work indicates that the endemic benthic fishes show no evidence of decline. In 14 hours of bottom trawling in the middle and southern basins, we collected 23 of the 30 species of endemic sculpins. Protection of the lake continues to be strongly advocated by some within the U.S.S.R. (*2*), and plans for conservation and expanded biological research have been developed. The fauna of the lake is unique and presents a variety of research opportunities, particularly in evolutionary biology. Given the hospitality we experienced, it is our impression that future collaborative studies with U.S. scientists are viewed favorably (*3*).

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References and Notes

1. P. R. Pryde, *Science* **220**, 274 (1983).
2. G. I. Galazy, paper presented at the Soviet-American Meeting on the Social-Geographical Aspects of Environmental Change, Irkutsk (1983).
3. Our fieldwork was supported by the National Geographic Society.