Letters

Filovirus Infection in Newly Imported Monkeys

This letter is written in response to Joseph Palca's News & Comment article "Import rules threaten research on primates" (1 June, p. 1071) and to bring to the attention of medical and biomedical scientists the present status of filovirus infections in monkeys newly imported into the United States.

In the fall of 1989, monkeys in several shipments imported from Asia into the United States were found to have been infected with a filovirus similar to Ebola, which had caused large outbreaks of human disease with high case-fatality rates in Africa during the 1970s (*1*). The virulence of this newly isolated Ebola-like filovirus for humans was not known, but prevention of human infection and limitation of human exposure to this new agent was considered a high public health priority.

Infections, determined by seroconversions and in one case by virus isolation, occurred in some persons occupationally exposed to infected cynomolgus monkeys from Asia (*2*). Although severe hemorrhagic fever had marked past human filovirus infections, no illnesses were noted in association with these recent human infections. Serum samples from a large number of persons with varying levels of exposure to monkeys were tested for filovirus antibody, and approximately 10% of persons having close occupational contact with monkeys in quarantine were found to be positive to one or more of four filovirus test antigens (*3*).

These findings prompted local, national, and international primate transport and import actions to prevent further filovirus infections of humans. In January of this year, the Centers for Disease Control (CDC) published Interim Guidelines for Handling Nonhuman Primates During Transit and Quarantine (*4*). In March, compliance with these guidelines was made a mandatory condition for continued registration of importers, and on-site inspections of all import quarantine facilities were begun. In April, the CDC announced the availability of a special permit for the importation of cynomolgus, African green, and rhesus monkeys for those importers meeting certain requirements (*5*).

Together, these actions have resulted in substantial improvement in import quarantine facilities and work practices. Monkey shipments have begun again as importers have come into compliance. As of 27 September, six importers had been granted special permits; four of those were extended permits for unlimited shipments over a 180-day period. Four additional applications for permits were under review. These importers represent all the major importers of monkeys into the United States. Importations have continued to increase since mid-June under these procedures.

As these animals clear import quarantine, end-users are being advised to adhere to recommendations for the safe handling of monkeys, such as those used to minimize the risk of transmission of any infectious agent, including filoviruses, *Mycobacterium tuberculosis,* and B virus.

It is our belief that these new procedures will help to safeguard public health, while allowing importation of monkeys that are needed for research.

WILLIAM L. ROPER
Director,
Centers for Disease Control,
Atlanta, GA 30333

REFERENCES

1. *Bull. WHO* **56**, 271 (1978); *ibid.*, p. 247.
2. *Morbid. Mortal. Wkly. Rep.* **39**, 266 (1990).
3. *Ibid.*, p. 404.
4. *Ibid.*, p. 22.
5. *Fed. Regist.* **55**, 15210 (20 April 1990).

"Internationalization" of Engineers

The editorial by M. Granger Morgan (31 Aug., p. 969) was "right on the money." His point regarding international language and cultural skills deserves special consideration. The engineering education community should look closely at ways to stimulate interest in foreign cultures, languages, and technology in the budding young engineers who, in large part, will determine the destiny of the country in the 21st century.

The majority of American engineering schools do a first-rate job of producing highly trained technical specialists, but a poor job of imparting cultural and language skills to these specialists. If American corporations are to gain a global competitive advantage, however, they must do more than simply produce goods for sale overseas, they must have engineers and managers who have an international experience.

Over the past year and a half, I have worked closely with École Polytechnique Féminine (Paris), the European Community (EC), and several key people here in the United States to structure an innovative program in engineering education. This program, American-European Engineering

Exchange (A-E^3), is designed to provide a mechanism for placing advanced undergraduate U.S. engineering students in European schools and industries for periods of study and internship and for placing similar European students in U.S. schools and industries. The students, in either case, would spend part of their year in the exchange school and part in a firm under staff engineers working on projects that are stimulating and would add to their education. The program would be nationally competitive, and only highly motivated students would be expected to be nominated by the engineering faculty. Funding for such a program might come from the National Science Foundation or industry foundations, or both, with special emphasis on support for minority and women students.

The member states of the EC have conducted a similar cooperative exchange program among themselves for several years now and have made great strides toward the "internationalization" of technology in Europe. This program would, in effect, bring the United States into the loop. If we are truly serious about our international competitiveness, we must implement this type of program for our emerging engineers.

T. C. ROZZELL
Associateship Programs,
National Research Council,
Washington, DC 20418

British Technology Group Income

In his excellent and extremely well-written review of *Innovating for Failure* by John Hendry (Book Reviews, 13 July, p. 190) Michael Mahoney draws attention to the foresight of Lord Halsbury and the Board of the National Research Development Corporation (NRDC)—now part of the British Technology Group (BTG) formed in 1981—in recognizing from the very outset the major potential of electronic digital computers. There is one factual error in his piece, however, that I would like to correct. He says, "Operating with limited funds advanced by the Treasury against the time the NRDC would become self-sustaining through royalties (which it never did), [Lord] Halsbury could only enter into joint ventures with industrial partners."

BTG, and before it the NRDC, have been self-financing and profitable for over 20 years, and long before the formation of BTG the NRDC had repaid all the loans it had ever taken from the Treasury. Last year BTG's licence income increased by 29% to $45.5 million. Its operating profit rose 24% to $12.25 million and its profit before tax increased by 26% to $17 million. We have been self-sustaining for a long time and continue to grow rapidly.

It is worth also noting that BTG's income from licensing is greater than the entire royalty income from the total university and government research effort in the United States. Despite the disappointment of not seeing its early foresight in the computer field recognized by industry, BTG is truly a success story and its future lies in its ability to continue to provide the same level of highly professional service to academic and other sources throughout the world as it has now done in the United Kingdom for many years. The recent formation of BTG USA will give this activity a new, highly important dimension.

PETER TANNER
British Technology Group,
101 Newington Causeway,
London SE1 6BU, United Kingdom

Samothrace

In the News article about the reinstatement of the Lasker Awards (14 Sept., p. 1241), the caption under the illustration of "The golden Lasker" is unfortunate. The goddess represented by the statue shown is Nike, the goddess of victory. The statue is often called the Winged Victory of Samothrace. Samothrace is the name of the Greek island where the statue was found, *not* the name of the goddess.

JACK E. GARRETT
17 Aspen Way,
Morristown, NJ 07960

Meta-Analysis and Bias

I was pleased to see Charles Mann's article "Meta-analysis in the breech " (Research News, 3 Aug., p. 476). However, I was concerned about his presentation of the meta-analysis on the "Effects of desegregation on academic performance of black students," which I conducted (*1*). In 1982 the National Institute of Education asked a panel of experts to review the findings of a meta-analysis on this topic that I was completing. The panel was selected to represent the diversity of views on the effects of school desegregation, but were not expert in meta-analysis. The panelists each conducted their own form of unorthodox meta-analyses using the 19 studies selected from my data set that they agreed as a group were the strongest methodologically. The estimates of effect ranged from 0.04 to 0.28.