



Rhesus macaques suitable for AIDS and other research are in short supply, but it is suggested that "[o]nly when we can define our animal resources through genetic testing will we be able to effectively manage our rhesus breeding colonies to meet...research needs...." A member of the U.S. Department of Education's panel that reviewed and selected math curriculum material for endorsement discusses the selection process and comments that a variety of materials and approaches should be used because children learn in different ways. And some of the difficult issues inherent in clinical research are examined: "Our efforts to ensure ethical conduct of experimentation with humans need to catch up with the incredible advances in science."

### Managing the Rhesus Supply

The News Focus article "Vaccine studies stymied by shortage of animals" by Jon Cohen (11 Feb., p. 959) highlights the problem of availability of Indian-origin rhesus macaques in AIDS research. A shortage of rhesus macaques is a problem in other disciplines as well, a point Cohen mentions only briefly. To develop effective strategies for meeting this need, the problem must be viewed at a national level, not as the problem of a single institute.

Similarly, the population of rhesus macaques in the United States must be viewed as a whole, rather than as subpopulations of animals. The perception that rhesus macaques of Chinese origin are not suitable for AIDS research is, to our knowledge, based on a single peer-reviewed paper and anecdotal accounts from various research labs. There are opposing anecdotal accounts indicating that these animals can indeed be used for AIDS research. Although there may be variations in different populations of rhesus macaques, there is insufficient scientific evidence to eliminate a portion of the breeding population in the United States. The species, *Macaca mulatta*, has a wide range, extending over millions of square kilometers in India and Asia. To efficiently and wisely manage the nonhuman primate resource in the United States, we must define these animals not only by geographic origin but by genetic characteristics as well.

The need in the late 1980s for specific pathogen-free rhesus macaques was met by

the National Center for Research Resources' (NCRR's) support of programs to develop tests for screening rhesus breeding populations for undesirable viruses. Now is the time for NCRR to provide similar support for the development of genetic screening

tools for rhesus macaques. Only when we can define our animal resources through genetic testing will we be able to effectively manage our rhesus breeding colonies to meet the research needs of U.S. investigators.

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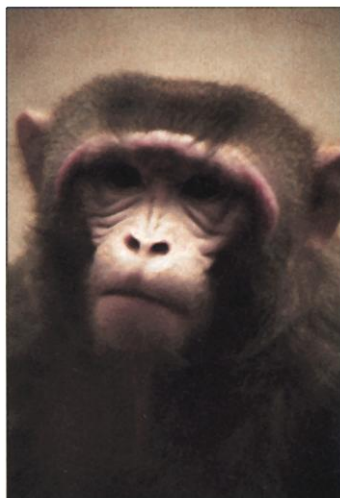
### From the "Math Wars" Front

A prime example of federal meddling in local elementary and secondary education is well illustrated in the News Focus article "Packard heir signs up for national 'math wars'" by Jeffrey Mervis (11 Feb., p. 956). A Republican Congress mandated that the U.S. Department of Education establish a panel of experts to inform school districts about exemplary and promising math curriculum materials. When the panel was assembled, many members indicated the no-win situation and questioned whether

the government should be getting involved to such an extent. Told that Congress wanted this done, the panel members, over a period of a year, worked on establishing criteria for materials to be classified as "exemplary" or "promising." Once the criteria were established, some materials were used for a trial run, and modifications were made on the basis of those trials. A call then went out asking for voluntary submission of materials. These materials, including research on student performance, were then evaluated by the panel according to the criteria.

Most of the curriculum materials that made the list were developed through grants, from either the National Science Foundation or other foundations. Their original development proposals had a strong research component built in, and materials were tested, revised, and tested again. These projects had longitudinal data of student performance, a major criterion of the "exemplary" classification. This is not to say that other materials were not considered of high quality. Many were, but they did not have the data of student performance that were required. Unlike the ratings by Project 2061 (a science education reform initiative of the American Association for the Advancement of Science, publisher of *Science*), there was no attempt to indicate anything about the nonqualifiers; that was not part of the panel's mission.

The panel members did the best job they could under the edicts of the legislation. Every person there wanted the best possible mathematics education for all children. How these ratings are used by the school districts is obviously their choice. What does not appear to be obvious to the more than 200 academics who took out an ad in the 18 November *Washington Post* urging the Department of Education to withdraw its endorsement of 10 new math texts for elementary and secondary school students, and to many school districts, is that children learn in different ways. The materials and strategies that work with one student may not work with others. For all students to meet the same high standards, standards that are locally adopted, the best solution is to put a variety of quality materials into the hands of mathematically competent teachers who understand that they must use this variety of materials and a variety of approaches to meet the needs of all their students. No federal panel or legislative body, however well meaning, can substitute their judgment for the best judgment of the school district and the teacher in the classroom. All the panel can say is, "This is how it looks to us. Do with it as you will."



AIDS and other research is hard hit by the rhesus shortage.

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