Letters

Chimps and Research

In his excellent editorial "Fetal tissue and research" (30 Sept., p. 1733), Daniel E. Koshland, Jr., refers to chimpanzees as a species that is "endangered." Chimpanzees have been officially classified by the Fish and Wildlife Service of the U.S. Department of the Interior and by international agencies as "threatened," not "endangered." These classifications reflect a lesser threat to their survival in the wild. There is therefore a highly important distinction between the terms "threatened" and "endangered."

Animal protectionists and groups wishing to limit or abolish biomedical research with chimpanzees have recently petitioned the Fish and Wildlife Service to change the classification of this species from "threatened" to "endangered" (News & Comment, 12 Aug., p. 777). Since the "endangered" classification places significantly greater restrictions on the use of such animals, including those already in captivity, many areas of disease prevention and treatment research, including AIDS studies, could be severely hampered by such a change. Any reclassification should be based on a responsible and objective survey of the number and circumstances of chimpanzees in the wild and not on anyone's guess or wish. It is important to note that no chimpanzees are being imported to the United States from their natural habitats in the wilds of Africa.

In 1973, the United States joined the Convention on International Trade in Endangered Species (CITIES). Since the implementation of the CITIES regulation, the United States has not imported chimpanzees from the wild. Thus reclassifying the chimpanzees as "endangered" would not provide additional protection of these animals from exportation from Africa to the United States. And, contrary to the rumor campaign conducted by several animal rights groups, the National Institutes of Health (NIH) does not plan importation of wild chimpanzees.

It should also be recognized that NIH has established a National Chimpanzee Breeding Program in the United States to ensure that chimpanzees do not become extinct in captivity and that there will remain an adequate supply for biomedical research in this country. This program and the concern of the world scientific and zoological community can ensure the long-term survival of this species in captivity. Regardless of how chimpanzees are classified, it is essential for the advancement of several areas of medical studies that those chimpanzees now in U.S. research and breeding establishments continue to be available for research as long as their numbers are stable or increasing.

FREDERICK A. KING
Director, Yerkes Regional Primate Research Center, and Departments of Anatomy and Cell Biology and Psychology, School of Medicine, Emory University, Atlanta, GA 30322

Fetal Research Ban

As a scientist working in the general area of neuroscience related to many of the diseases that are targeted for fetal transplantation, I feel it is important to point out that not all biomedical scientists in this field object to the Reagan Administration's attempts to ban the use of tissue from electively aborted fetuses (News & Comment, 16 Sept., p. 1423). This is in spite of the fact that we would probably benefit directly by increased federal funding of this research. Although we are in the minority, some of us reject the rationale that the use of fetal tissue is the only approach to studying these disorders.

If the potential therapeutic benefit of fetal tissue made it easier for a woman to choose to abort, legalizing the use of such tissue would likely encourage the practice of abortion. Such positions may be underrepresented among biomedical scientists working in this area, but should not be overlooked in presenting the contrasting viewpoints on this important issue.

KEITH A. CRUTCHER
Department of Neurosurgery, College of Medicine, University of Cincinnati, Cincinnati, OH 45267-0515

Steroid Use and Aggressive Behavior

In his article "The drug of champions" (News & Comment, 14 Oct., p. 183), Eliot Marshall reports on the current controversy surrounding steroid hormone use by athletes and body builders. Although Marshall's article is basically accurate, two statements could be refined.

1) Marshall states, "There is spotty evidence but no firm support for the popular view that steroids stimulate aggressive behavior." There is, however, a large and unequivocal body of literature showing that masculinizing androgenic steroid hormones (for example, testosterone) promote aggressive behavior (as well as sex, activity, food intake, and body weight gain) in a wide variety of male and female mammalian laboratory animals (*1*). Similar findings in humans have not been reported, but some clinical studies show that androgen antagonists can be useful in lowering the violent tendencies of highly aggressive males with a history of sex offenses (*2*).

2) Marshall states, "Although the androgenic [masculinizing] effects [of anabolic steroids] were reduced [in the synthesis of anabolics], they were not eliminated, and this remains one of the main problems with anabolic steroids today." The best scientific information available indicates that none of the anabolic steroids now available is completely free of androgenic (masculinizing) activity in humans (*3*).

Marshall correctly states that the data are at best inconclusive regarding improved athletic performance resulting from anabolic steroid use. It should also be noted that placebo effects can explain some of the reported positive behavioral effects obtained from anabolics. However, the two points emphasized above, in combination with the knowledge that some athletes use extremely large doses of anabolic steroids, suggest that some of the performance-enhancing effects of these hormones may result, in whole or in part, from the masculinizing actions of their androgenic constituents. Such an outcome would not be inconsistent with what we already know to be the case in other mammals.

BRUCE SVARE
Department of Psychology, State University of New York, 1400 Washington Avenue, Albany, NY 12222

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2. U. Laschet, in *Contemporary Sexual Behavior: Critical Issues in the 1970s*, J. Zubin and J. Money, Eds. (Johns Hopkins Univ. Press, Baltimore, MD, 1972), pp. 311–320; J. Money, *Love and Love Sickness* (Johns Hopkins Univ. Press, Baltimore, MD, 1980).
3. A. G. Gilman, L. S. Goodman, T. W. Rall, F. Murad, Eds., *The Pharmacological Basis of Therapeutics* (Macmillan, New York, 1985).

Erratum: In the Perspective "Neural transplantation: A call for patience rather than patients" by John R. Sladek, Jr., and Ira Shoulson (10 June, p. 1386), it was incorrectly stated that human spinal cord transplantation was attempted in 1944 at Washington University. This experiment was carried out at St. Louis University in St. Louis, Missouri, not at Washington University.

Erratum: The credits for the figures in Jean L. Marx's Research News article, "Putting foreign genes into domestic animals" (7 Oct., p. 32), were inadvertently switched. Vernon Pursel of the USDA Agricultural Research Service took the picture of the transgenic pig, and Robert Hammer of the University of Pennsylvania School of Veterinary Medicine is responsible for the micrograph of the newly fertilized pig egg.