

different panels of scientists investigating the case for their professional societies came to the same conclusion as the courts and the US Public Health Service Grant Appeals Board?

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SIR — In his recent review, Singer¹ inaccurately represents the role of the American Psychological Association (APA) in Taub's defence. APA, along with several other scientific societies, did indeed provide early and crucial support for Taub. However, when Singer's review describes the APA's monetary support of Taub's legal defence, he fails to point out that these funds were allocated only after an extensive investigation of Taub's research by APA's ethics committee that found no ethics violations.

The conclusions reached by the APA ethics committee and similar boards from other scientific societies were the same as those of the court that acquitted Taub of all but one of the charges against him; the same conclusions were reached by the US Public Health Service Grant Appeals Board that reviewed the case on appeal.

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SIR — As the veterinarian mentioned by Singer¹ who testified on Taub's behalf and later "was appointed director of the office of Animal Research Issues at the National Institute of Mental Health", I would like to comment on his inaccuracies and apparent lack of medical knowledge (also evidenced in his book, *Animal Liberation*² as Russell and Nicoll³ have revealed).

Had I not earlier helped to treat monkeys with removal of sensory inflow to the limb (deafferentation) and known that, short of amputation, only palliative, nursing care was possible, I would not have testified. Despite the ugly appearance of the limbs, due to their being treated as foreign objects by the monkeys and the effects of disturbed circulatory reflexes — not lack of care — the monkeys were in otherwise good health: alert, well-fleshed and with gleaming hair coats. Comments about the sequelae of deafferentation by "NIH officials" were ill-informed, as I stated in 1983 in response to that statement. Taub's veterinary consultants in the past — Singer leads one to believe Taub had never consulted veterinarians — had reached conclusions similar to mine and those of my veterinary colleague, Peter

Hand.

Ironically, veterinary care at NIH by those new to the problems presented by the chronically deafferented limb appears to have led to the amputation of the arm of one monkey (Nero) to counteract gangrene. Another animal, Paul, almost lost an arm for the same reason. This was apparently induced by bandaging the arm despite Taub's warning that circulation could become compromised due to swelling. But it was Taub who was convicted by a non-medically trained jury of inadequate veterinary care of that monkey alone (Taub's conviction on that one issue was reversed by the Supreme Court of Maryland). Neither the prosecutor nor NIH ever showed him the pathology report on that limb, which stated that the osteomyelitis his allegedly chronically poor care induced did not exist. Rather, there was osteonecrosis from a compromised blood supply with evidence of bandaging.

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1. *Nature* **367**, 523; (1994).
2. Singer, P. *Animal Liberation* 2nd edn. (Random House, 1990).
3. Russell, S. & Nicoll, C. *Proc. Soc. exp. Biol. Med.* (in the press).

SIR — The leading article "Animals in research" (*Nature* **368**, 84; 1994) incorrectly asserts that "the most adamant . . . defenders of animal research show no signs of wanting to compromise" on the use of animals in research. Thus medical researchers are mischaracterized as counter-extremists to the animal rights movement. That is to suggest that medical researchers believe that humans have an unrestricted right to use animals in any way they choose. This is far from the medical community's position.

Medical researchers are in agreement with the vast majority of Americans on the issue of animal research. They believe that it is appropriate to work with animals in the pursuit of cures and treatments as long as the animals are treated as humanely as possible. This concept is known as animal welfare. Not only is it widely accepted by the medical research community, and has been for years, but it is also enforced by strict laws and regulations (medical research is among the most regulated activities in the country).

What do animal rights leaders say about the "middle ground" concept of animal welfare? Animal rights philosopher Tom Regan said, ". . . the enactment of animal welfare measures actually impedes the achievement of animal rights". Thus they consider their extreme position to be not only correct, but also necessary to

reaching their goal.

According to Dr Adrian Morrison, a representative from the National Institutes of Mental Health: "In order to have a rational discussion regarding animal research, the discussion must be amongst those who recognize it's appropriate to work humanely with animals."

Therefore, unless animal right extremists abandon their radical philosophy and join the majority of Americans — including medical researchers — who believe fervently in the humane use of animals, a rational discussion cannot occur.

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Nature/nurture

SIR — The persistent controversy about the nature/nurture dichotomy, as recently reanimated by John Maddox (*Nature* **366**, 107; 1993) and commentators (**367**, 591; 1993), can be resolved most easily if the interaction between organism and environment itself is integrated into a broader comparative approach. In ethological research for example, this is nothing more than the standard method of establishing phylogenetic trees of behaviour patterns. In such a perspective, it is quite trivial to demonstrate environmental influences on genetic factors as there exists not a single gene which, through its phenotypic effects (behaviour included), could be proved to be absolutely independent of the milieu. It is, however, not trivial to examine how genetically different systems react to exactly one and the same external influence. Given the fact that the interpretation of concrete 'stimuli' by a living system typically depends on the specific genetic structure of the organism involved in the interaction, the Strong Genetic Principle is indeed valid as the universal information processing factor in evolution. This does not at all mean that genes are independent of their environment and thus would predetermine even the fate of human beings. Rather, it is the characteristic way in which they interpret influences from an ever changing milieu which is absolutely independent of any external instruction.

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