

ARE WE WILLING TO FIGHT FOR OUR RESEARCH?

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In June of 1989 The Johns Hopkins Medical School celebrated its hundredth anniversary. In the half-dozen speeches at the opening ceremonies, given by major figures at Hopkins, plus the Secretary of Health, the Postmaster General, and the chief executive officer of one of the country's leading pharmaceutical houses, all the important problems confronting modern medicine were addressed, from AIDS to our legal system—with one exception. Not one speaker mentioned the animal activists. After the convocation I asked my host, one of the world's leading neurophysiologists, how he could account for this. His answer: "David, they're scared to death."

On February 8, 1990, the Dean of the Knoxville Tennessee School of Veterinary Medicine was murdered. He was found in the driveway of his home with eight bullets in his chest. Less than two weeks later the Boston Herald reported that animal-rights extremists had threatened to kill one veterinary-college dean each month for twelve months, as a protest against research involving the use of animals. At present these rumors remain unconfirmed, and there seems to be no shred of evidence that the murder had anything to do with the animal activists. What is significant is the immediate and instinctive reaction of those of us who use animals in our research, to have it even cross our minds that the murder might represent some new wave of fanaticism on the part of the animal-rights activists.

No one who uses animals in medical research can doubt that these activists pose a most serious threat to our field and to society. I am not a scholar of the animal-activist movement and do not count myself an expert in its history or philosophy. My involvement comes partly from the fact

that I use cats and monkeys in the research I do, and partly from the year (1988–89) I spent as President of the Society for Neuroscience, a year in which I spent more time on animal issues than on all other issues combined.

Let me begin by getting one question out of the way. Given that I do earn my living from research that involves cats and monkeys, am I not biased and motivated by self-interest? Would it not be better for people like myself to keep quiet, and leave the struggle to those who do not have a personal stake in the outcome? I find this argument silly. If we who are doing the research are not willing to speak up for it, who will? I believe that the very fact that we have kept silent unless directly attacked has “sent a message” (as they would say in Washington) that we give in to the points that we know so well to be false—that animals have contributed nothing to medical research, that we can do it all with computers, that our animals suffer terribly, and so forth. We will have to begin to contest statements such as these in a loud, clear voice. Silence as a strategy has not served us well. Our silence is all the more ironic because our arguments are compelling and our audience is mostly reasonable and prepared to listen.

Who are these animal activists? Today in the USA well over five hundred groups of people are working on behalf of animals. The members of these groups cover a broad spectrum, ranging from an animal-welfare contingent, whose goals are to promote proper treatment of animals, including guarantees against unnecessary pain or discomfort, to groups who are against using animals for any human purposes, and who in the most extreme cases will lie, steal, and destroy property to gain their ends. It can be difficult to assign any one group to its proper place in this spectrum because the more radical groups often try to appear more moderate than they are. The Humane Society, for example, would have us believe that they are moderates and not opposed to the use of animals in medical research; their Statement of Objectives nevertheless makes it clear that their long-range goal is to see all such research terminated. At or near the extreme, People for the Ethical Treatment of Animals (PETA) does not, as far as I know, claim or acknowledge direct responsibility for terroristic activities, but they publish and disseminate extracts of protocols and personal correspondence stolen from the laboratories of medical scientists during break-ins by the Animal Liberation Front (ALF), an avowedly terroristic international undercover group. In a videotape made by PETA describing a recent break-in at Texas Tech Medical School, they formally acknowledge their indebtedness to the ALF. It is not known how extensively these two organizations overlap in their membership.

A major source of the difficulty in knowing whom one is dealing with is the tactic of takeover of moderate groups by the more extreme ones. To take over a society such as a local SPCA, members of a radical group

attend one of the moderate group's meetings, pay their \$5.00 to join the organization, and then vote in their fellow activists as officers. With no change in name, an organization that was once moderate suddenly and quietly becomes extreme. The entire wealth of the organization, which can be enormous, is then controlled by the extremists.

We may be tempted to assume that the members of the more extreme groups, while shrill and fanatical, are at least driven by a desire to prevent cruelty to animals. I have slowly come to the opinion that, while the rank-and-file of the membership may have such motivations, the leaders are likely to have quite different goals, namely power and personal wealth. On the whole, they are no more motivated by kindness to animals than most medical malpractice lawyers are motivated by a desire to improve standards of medical practice. One need only look at a list of the annual incomes of leaders of these groups. A good reason to doubt the purity of their motives is their callous disregard for the welfare of animals when it suits their purposes. An example is their long and continuing campaign, in the courts and in Congress, to prevent the euthanasia of the sensory-deafferented Silver Spring Monkeys, against the wishes of the NIH and the research community, for purposes of propaganda.

The records of the FBI and of Scotland Yard show that terroristic activities by animal activists are much less common in the United States than in the United Kingdom. What is frightening is not the absolute number of attacks here, but their dramatic rate of increase. At the 1989 annual meeting of the Society for Neuroscience, the Animal Panel was attended by a record number of members. On that occasion those of us who work on mammals, especially cats or monkeys, were strongly advised by one of the previous year's attack victims to improve radically our security, for example by installing locks and warning systems on our laboratory doors and having our addresses and phone numbers unlisted.

The basis of the animal activists' cause is that it is morally wrong for humans to exploit animals for their own ends. This includes using animals for food, clothing (fur, leather, wool, probably even silk!), entertainment (pets, horse racing and riding, circuses), education, science for its own sake—seeking to understand ourselves and the world around us—and finally for medical research.

At the heart of the arguments made by scientists is the concept of a *balance* among the different forms of life, in which it is not unnatural for one species to prey on or exploit another, and is indeed often necessary for the survival of a species. The concept of balance, however, precludes the gratuitous destruction of plants and animals. Thus research requiring the death of animals must be justified by sound and compelling reasons, and such justification must in some way take into account the hierarchical

position of the plant or animal as well as its abundance. A reasonable person does not hesitate to exterminate the flies that crowd around the garbage, and the farmer's wife sets traps to get rid of mice, unless she is willing to put up with mouse droppings around her sink every morning. The ethical dilemma is found in its most extreme form in cases such as the use of chimpanzees in research to overcome plagues like our present AIDS. Where each of us draws the line is a personal choice. I suppose I would be willing to use chimpanzees to fight AIDS, provided the numbers of animals were very small and provided I were convinced that the chances for decisive results were excellent. I could not under any circumstances agree that human lives should be risked for such research. This is a matter of ethics, not logic, and it is remarkable that the extreme animal-rights advocates take the opposite positions on both questions—that *no* animals should be used in research, and that it is all right to use humans, for example, prisoners, for such research. The Nazis are known to have felt the same way, on both counts.

It seems to me reasonable that we should be guided by the way nature in fact operates, and not by the way the more starry-eyed of us would like to see it work in some Garden of Eden. Whether we like it or not, cats are carnivores, and so are boas. If you own either as a pet, you will have to feed them meat if you want them to survive. A boa constrictor eats a mouse a month—at least our son's small boa did; it ate a live mouse, and one felt sorry for the mouse, but the choice was to feed it the mouse or feed it carrots and watch it die. We see analogous problems everywhere: we kill termites or they eat our houses; we kill cats and dogs by the thousands, at the pounds—"shelters" is the euphemism—or they overrun us; we hunt deer, or they outrun their food supplies and starve; we kill rats as well as other animals or we put up with plagues. Somehow we have to reconcile our revulsion over the thought of destroying a life with the need to avoid being silly. Shakespeare puts the problem in a nutshell when he speaks in *King Lear* of "the man who in pure kindness to his horse, buttered his hay."

The animal activist question is part of the more general problem of increasing suspicion towards science. The pros and cons of these matters are lucidly dealt with in a small book by Max Perutz called *Is Science Necessary? Essays on Science and Scientists*, and I cannot hope to improve on his discussion. Obviously, a major part of the problem is ignorance among many people in the USA concerning science. One need only note that our former president (of the United States, not of the Society for Neuroscience) is said to have arranged his daily calendar according to the recommendations of his wife's astrological consultant, or that our present vice president is quoted as saying that we all know Mars has canals, that

canals carry water, that water has oxygen, and consequently that Mars can support life.

Scientific literacy includes more than certain specific scientific facts—equally important are its objectives and the way advances are made. People, including some of our legislators, seem to have the idea that science consists of Truths, discovered and not-yet-discovered, and that making a scientific discovery is like discovering America—once done, we go on to the next discovery. They need to be told that the most important, profound, and useful truths, such as Newton's Laws or the red shift, are always subject to revision; that replication, not just once but many times, is absolutely necessary, that once a scientist makes a presumptive discovery, another scientist would be foolish to proceed to the next step without first being as certain as possible of the foundation he is trying to build on; that a good scientist will always feel uneasy until someone else has confirmed his findings. That being wrong is no sin, especially since it is easiest to be right about trivial things.

An important source of our problem concerning animals is the increasing insulation of people from the realities of biology. Today fewer and fewer people ever set foot on a farm; no one sees horses pulling wagons, or defecating or urinating. We remove old people from our homes and families, and consequently never have to see demented behavior or incontinence or death. In any case our dead go to the funeral parlors and we don't want to know what happens there. We faint at the sight of blood, and almost no one ever sees a surgical operation. For a human birth to be presented in a movie or on TV is unlikely, given our censorship laws and our prudery. We get rid of the remains of the mouse that our cat has tortured and killed before our children can see them. Dissection of frogs in biology classrooms may soon become a thing of the past. We probably cannot easily change much of this, but to be aware of the squeamishness of society that results from high technical specialization will help us understand the revulsion many people have at the idea of cutting into an animal. I have found that reasonable people respond positively when you point this out to them, even accepting it as a valid reason for my declining to invite them to see my laboratory.

We should make clear in our discussions that we do not like killing animals, or inflicting pain or suffering, and that we support the attempts to minimize suffering, though recognizing that its complete elimination may not always be possible. Most people have no idea that there are strict regulations and guidelines on animal use, at local, state, and federal levels, and that we support these regulations. We have to admit that not all scientists are saints, and that research animals are on some rare occasions subject to cruelty, just as pets and children are. But such cruelty is rare

because people who do medical research are basically altruistic, probably on average more so than the grocer, lawyer, or businessman.

I should add here that I find it regrettable that we tend to couch our arguments for the use of animals in research purely in terms of medical applications. If we can spend two billion dollars on the Hubble space telescope to help us understand the universe (and I fully support that venture), we can certainly spend that kind of money and use some animals to help us understand the most complex machine in the known universe, the mammalian brain. Can any reasonable person doubt that understanding the brain will help us understand learning and hence education, emotions, aggression—in fact all human interactions? To justify our work entirely in a framework of disease restricts us needlessly, and also is hypocritical given that many of us (I include myself) are driven as much by scientific curiosity as we are by immediately practical applications in prevention and cure of disease. I don't mean for a moment to downgrade the importance of the applications or to imply that one's sources of motivation are quantifiable.

While we may all be generally familiar with the tactics of the animal activists, it may do no harm to comment on some of them. Propaganda (here, a euphemism for lies) is their most important. Repeating statements without regard to truth—that the research is useless and frivolous, that all successes in dealing with disease depend on diet and epidemiology, that computers and tissue culture can substitute for the use of animals, and that the research is cruel—in the end works in their favor. The media and the people tend to average all they hear, believing that the truth must always lie somewhere in between. The two most sinister recent developments are a markedly stepped-up propaganda campaign in the schools, and the use of litigation. An increasing threat of lawsuits will surely loom large in the mind of anyone contemplating speaking out for our side. Of all our professional societies, perhaps only the AMA is wealthy enough to risk being wiped out in the process of defending themselves. Whether one wins or loses may not matter if one is bankrupted.

Finally, attacks on individuals or individual laboratories in the form of break-ins, personal threats including death threats, and smear campaigns not only make the scientists' lives miserable and slow down or cripple the research: they also make medical research seem like a profession to be avoided by young people choosing a career.

What makes all this ironic is that the arguments of the animal activists are so easy to refute. Their contention that medical research using animals has never led to useful results can be refuted by any teenager who spends a few hours in the local library looking up topics such as polio, heart surgery, infectious disease, or a hundred others. To those who think

computers can replace animals in research, we reply that computers *are* useful in medical research, as tools, just as calculators are, but that to think of using a computer to replace an animal in an experiment is, today, a little like planning a visit to Neptune. We can hope that they may someday be useful in suggesting worthwhile animal experiments. To the assertion that tissue culture can replace the whole animal, we point out that the cells and the medium the cells grow on both have to come from animals. The cells that we grow in culture, moreover, are not organs or organisms: we cannot study architecture by studying bricks, important as understanding bricks is to the understanding of the building.

Such arguments are easy. We tend not to do so well in dealing with the fuzzier issues. Is our research ever cruel? First, to study pain itself, we may at times find it necessary to induce pain, although usually such work can be, and is, done in the presence of anesthetics or analgesics. Second, people who do research are human, and there may be some who are insensitive to the comfort of the animals they work on. The fact that such regulations exist today is probably due at least in part to the activities of the animal rights people. We can surely concede that without agreeing to give up the research itself, as they would have us do. Not to make such concessions damages our credibility among the huge masses of people who are still uncommitted. Many such people have seen the photographs of the Silver Spring monkey being crucified and the videotapes of the primates in the Pennsylvania head-injury study, and they will want to know what we have to say in answer, or why we are silent. They need to be told that there is strong suspicion that the Silver Spring monkey photograph was staged by the animal-rights caretakers. But they also need to be told that the science was sound, that the people involved were not cruel, but that ten years ago there were cases of a laxness of standards in animal care that would hardly be conceivable today.

At first glance our battle with the animal rightists may seem very unequal. If we compare the finances available to PETA, for example, with those available to the Foundation for Biomedical Research, PETA would win by at least an order of magnitude. That explains how they can instigate lawsuits without regard to their chances of winning or losing—it doesn't matter if your object is to consume your adversaries' time and meager financial resources; it doesn't matter if your ally in the Animal Liberation Front is caught and convicted of a terroristic act provided he or she is merely fined, because your organization can easily pay the fine.

Things needn't be so unequal. Jotting down even a partial list of our resources should convince anyone that if only we could get together we would be overwhelmingly powerful. We have the doctors, the nurses, the dentists, the veterinarians, plus all the associated professional societies,

not least the AMA, plus the hospitals and the huge corporations that own hospitals. We have the patients, represented most effectively by IIFAR (Incurably Ill For Animal Research), and we have the voluntary health organizations. We have the medical schools, veterinary schools, and dental schools. Of course we have the research communities and our professional societies, such as the Society for Neuroscience. Plus the whole pharmaceutical industry. If that is not enough, we can probably expect help from agriculture. And supporting the entire nonindustrial research establishment are the NIH and NIMH and the foundations (for example, the Hughes Institute). Despite all this (and doubtless more), the only organization we have that exists solely to combat the animal rightists is the Foundation for Biomedical Research, manned by a tiny staff in Washington (admittedly a staff with enormous talent and energy), with assets totaling a few hundred thousand dollars. It doesn't take much thought to realize that where we fall short is in our organization and our willingness to pull together.

Given our potential size and the compelling nature of our arguments it is hard not to be optimistic. Reinforcing the optimism is the change one can detect in our own attitude over the past few years. As scientists we are beginning to show a willingness to devote some time and enthusiasm to these issues, as we must if we are to expect our colleagues in medical practice or hospital administrators, NIH administrators, foundations, or congressmen to wake up. Up to now, no one has wanted to stir things up. We have been torpid, and have lacked courage. I sense this is changing rapidly, and I hope fervently that the change will spread like a brushfire. It can, of course, tip the other way, as it did in Britain and in much of the rest of Europe, where medical research that uses animals has been virtually destroyed.