Animal extremists' threats to neurologic research continue

Neuroreality II

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GLOSSARY

AAN = American Academy of Neurology; **ALF** = Animal Liberation Front; **CAR** = Committee on Animals in Research; **ELF** = Earth Liberation Front; **FBI** = Federal Bureau of Investigation; **PCRM** = Physicians Committee for Responsible Medicine; **PETA** = People for the Ethical Treatment of Animals; **SfN** = Society for Neuroscience; **UCLA** = University of California, Los Angeles.

In 1995, Landau et al.¹ documented the prevailing threats to animal research in “Neuroreality I,” which emphasized the importance of incorporating an understanding of biomedical research within the educational system. Two decades later, the threat against research involving animals has not receded but rather has escalated. It is therefore time to revisit these important issues. According to the Foundation for Biomedical Research, illegal incidents against researchers using animals rose from 6–27 events per year (1993–1997) to 76–103 per year (2003–2006).² This has occurred against the backdrop of exponential growth in neuroscience research and understanding of neurologic disease pathogenesis leading to innovative treatment strategies. These advances have occurred as a direct outgrowth of the seminal contributions of animal investigations. Therefore, the alarming trend of these direct attacks requires an appropriate response.

Most practicing neurologists and biomedical investigators involved in neuroscience research are cognizant of the pipeline of research initiatives required to demonstrate the efficacy of new therapies. This involves a long series of experimental paradigms and repeated testing to ensure that patients are not the first living beings exposed to a putatively helpful but potentially harmful new therapy. Most professional neuroscientists agree about the importance of animal research. However, not everyone in the general public understands the issues involved. Unfortunately, a minority of individuals who oppose the use of animals in research have used threats and even terrorism to further their views. This threatens the very system upon which new treatment options depend. Here we will discuss the tactics used to oppose animal research and discuss appropriate responses.

ACTIONS OF ANTI-ANIMAL RESEARCH GROUPS **Activism of the anti-animal research activists.** Messages designed to enlist support against animal research have been delivered for many years without overt challenge by the scientific community. A presumed fear of reprisals has been thought to enable the unchecked spread of misinformation.¹

Outreach initiatives through presentations to schoolchildren have been used to gain support from the earliest stages of conceptual thought. These outreach initiatives have incorporated misleading information and contrived photographs through activists gaining employment in research labs and intentionally staging fake photographs in the laboratory setting for use in presentations and Web site postings.³ Misleading information typically remains on the Web sites and in brochures even after errors have been pointed out to anti-animal research groups.³ Activist organizations also attempt to identify themselves with the pro-environmental movement for recruitment and fundraising purposes.³

Anti-animal research organizations deny that there are beneficial outcomes from animal research. As most clinicians and researchers are aware, a wide range of breakthroughs derived from animal studies have saved

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countless lives. One recent example that is highly relevant to neurology is the development of contemporary immunomodulatory treatments for multiple sclerosis based on preliminary studies in a CNS autoimmune disorder induced experimentally in animals.⁴ Continuing identification of innovative therapies using animal models is anticipated in the future as a result of increasingly sophisticated molecular genetic, stem cell, and epigenetic research programs.⁵ Animal research continues to be critical for protecting patients from premature approval of potentially deleterious drugs. The tragedy of birth defects caused by thalidomide might have been prevented had more animal research been mandated. Most of the birth defects occurred in Europe, where thalidomide was prescribed to control morning sickness in pregnancy.^{5,6} The United States was largely spared thalidomide-related birth defects due to the vigilance of the US Food and Drug Administration in deferring approval of this drug's use pending investigation of its effects in pregnant animals.^{5,6}

Vaccines, which have been the most successful and cost-effective public health intervention ever introduced, have depended on animal research for their development. For example, the polio vaccination program that began 60 years ago could not have been achieved rapidly or safely without animal research. Effective control of more recent infectious disease threats, including Legionnaires' disease, HIV/AIDS, severe acute respiratory syndrome, and avian flu, have also depended on animal research. Timely response to newly emerging infectious agents (influenza pandemics, hemorrhagic fevers) will also depend on animal research.

Sometimes the misinformation distributed maligns specific researchers. Dr. Sharon Juliano, a researcher at the Uniformed Services University of the Health Sciences, has had "WANTED" posters placed with her name, picture, and home address, stating "WANTED FOR MURDER-FOR CRUELTY-FOR DECEIT-FOR CRIMES AGAINST ANIMALS." In another harassment strategy, Dr. Juliano's telephone number has been placed in classified ads claiming that she offers condoms as a public service free to callers.⁷ Other scientists have had similar experiences. Shortly after Dr. Michael Podell published a major article on feline AIDS, an animal model of human AIDS, he was the target of threatening telephone calls and e-mails encouraged by Internet postings of local and national animal rights groups.⁸ After several death threats, he left his funded research project in midstream to undertake private practice veterinary medicine.⁸

Dr. Dario Ringach halted his funded vision research after his photograph, home address, telephone number, laboratory address, laboratory telephone number, e-mail, and other contact information were posted on Animal Liberation Front (ALF)-related Web sites, and activists began protesting at his home

and distributing inflammatory leaflets to his neighbors.⁸ ALF also took credit for delivering a "Molotov cocktail" to another researcher, which in error was delivered to an elderly neighbor. Fortunately, it did not detonate.⁹

In England, Dr. Colin Blakemore, a vision researcher, received threats regarding the kidnapping of his children as well as bomb threats.^{8,10}

Telephone and e-mail harassment, vandalism (broken windows, flooding), home invasion, and fire-bombing have all been documented as methods of intimidating scientists engaged in animal research.⁴ In January 1990, the University of Tennessee received a letter from anti-animal research extremists threatening to assassinate a veterinary dean within 12 months. One month later, the dean of the veterinary school at the University of Tennessee died as a result of a gunshot wound received while on his private farm. His assailant remains unknown.^{8,11}

The most threatening acts we have described typically targeted researchers studying primates, cats, or dogs. However, investigators studying rodents increasingly require protection from harassment.¹²

University scientists are not the only ones affected. The Chief Executive Officer of Novartis had his mother's ashes stolen, the graves of his family desecrated, and his vacation home burned by animal activists.¹³ Activists' efforts to impede transport of research animals (described below) affect a range of stakeholders, including the pharmaceutical industry.^{14,15} "Animal rights" groups have attacked other industries. People for the Ethical Treatment of Animals (PETA) was responsible for disrupting the Westminster Dog Show at Madison Square Garden in New York in recent years,¹⁶ and activists have adversely interacted with various stakeholders in the food industry.¹⁷

The centralized activities of the major public organizations are relatively easy to track, but the organizational structure of individuals involved with terrorist acts is considerably more difficult to trace. Activities such as posting personal information or false information about researchers are also difficult to trace and typically are not prosecuted.^{3,5,8} However, the Federal Bureau of Investigation (FBI)'s characterization of these activities as terrorism¹⁷ has assisted efforts toward prosecution. All extremist activities are destructive to scientific dialogue and disruptive to the pipeline of research yielding new therapies for both human and veterinary patients. *The Animal Research War* by P. Michael Conn and James V. Parker is a thorough resource for additional information regarding this subject.^{3,5,8,18,19}

Financial support of the anti-animal research activists. Financial support for the more extreme activities used by animal rights activists is complex. Funding for the

more “mainstream” organizations opposing the use of animals in research can generally be traced. Activists involved in more violent activities are typically from smaller fringe groups not requiring large amounts of funding, and their sources of funding are more difficult to track. PETA is the largest organization against animal research. In fiscal year 2012–2013, PETA was reported to have an annual budget exceeding \$35,000,000,²⁰ mostly from individual donations, with some individual and foundation donations exceeding \$1,000,000.²¹ These contributions are allocated to fundraising, advertising campaigns, and protests. Despite promoting its efforts in the exploration of alternatives to animal research, only about 2% of the PETA budget is actually allocated toward research into alternatives to animal research.²² Larger and more public groups have avoided being visibly associated with more aggressive forms of activism, but Internal Revenue Service filings reveal that members of the highly aggressive ALF and the Earth Liberation Front (ELF) are recipients of PETA funds.¹⁸ The FBI has described ALF and ELF as “the most active criminal extremist elements in the United States.”^{18,23} As noted above, financial data are not readily available for these affiliated organizations.

The larger, more public groups dedicated to disrupting animal research use a variety of methods to raise funds. Their chosen titles are sometimes purposely misleading in order to accrue donations from individuals who may not fully understand the group’s intentions. For example, one might assume the “Physicians Committee for Responsible Medicine (PCRM),” with a 2012–2013 budget exceeding \$8,000,000,²⁴ would be a traditional medical organization. However, physicians account for less than 10% of its membership.¹⁸ The meaning of the “responsible medicine” component of PCRM refers to “an agenda promoting diets and medical practices not dependent on animals.” As an indication of their real attitude toward animal research, one leading PCRM member was barred from entering the United Kingdom for being quoted as saying that millions of animal lives could be saved if a handful of researchers were killed.^{18,25} Similarly, the Humane Society of the United States, with a 2012–2013 budget exceeding \$100,000,000,²⁶ is not involved with local humane societies. Donors intending to contribute to animal shelters may not be aware that <1% of its annual budget goes to grants for local animal shelters.¹⁸

Legal strategies used by anti-animal research activists. Another contemporary strategy favored by activists is to legally challenge in promotion of animal guardianship rather than ownership. Their goal is to grant animals “personhood,” a title that would raise animal rights to a new category in which research is no longer

possible.¹⁴ The activists’ argument is that any lesser legal status of animals is “speciesism,” analogous to racism and other forms of civil discrimination. Recently, PETA has pressured airlines to prohibit transportation of research animals by air, starting with nonhuman primates.¹⁴ Continuing efforts are planned for other species as well as a restriction involving other modes of transport.^{14,15} Activists continue to lobby for larger cages for rabbits and rodents, ignoring the fact that rabbits and rodents in nature are fearful of open spaces.¹⁹ Furthermore, bans are moving forward for all research involving great apes.²⁷ The strength of existing support for the welfare of research animals is evidenced by strict federal and local regulations with specific requirements that must be in place before research can proceed, as described below.

RESPONSES Public response. It is a matter of speculation why reports of illegal incidents involving animal activists against researchers increased between the 1990s and the 2000s. Data for activities outside the United States and England are less readily available. The budgets for the larger, more public organizations, such as PETA, increased over that period.²⁸ However, the US Department of Justice’s recognition of such activities as domestic terrorism¹¹ may have slowed the rate of increase in such activities in more recent years. The increased regulatory requirements to justify numbers of animals used in research projects have been accompanied by a steady reduction in the numbers of animals of all types used annually for research in the United States,²⁹ so the increase in anti-animal research activities cannot be attributable to increased use of animals in research. It is challenging to determine with certainty the factors driving animal rights extremism.

The customary silence of researchers has been a potent weapon for the animal rights activist. By avoiding discussion of animal research for fear of reprisals, many who would otherwise be highly supportive of animal research enable extremists’ activities to proceed unchecked. There is evidence that the public is willing to react, as demonstrated by the public stands of AIDS activists in support of continued animal research.³⁰ In another example, a British teen whose grandfather had benefitted from medical progress helped start “Pro-Test” in response to extremists who were using car bombs and arson to stop construction of the new Biomedical Research Facility at Oxford University. This act produced large protests in support of biomedical research.³¹ Despite threats, the organization continued to grow, finally ending its operations in 2011 after successful construction of the Biomedical Research Facility.³¹ More recently, 700 supporters joined University of California, Los Angeles (UCLA) researchers who faced

harassment from anti-animal research activists to call for an end to the intimidation and threats as part of the UCLA Pro-Test.³² Current information about how to support animal research and organizations advocating for animal research is available through Americans for Medical Progress at www.raisingvoices.net. The latest information on the current state of affairs is available through the National Association for Biomedical Research at www.nabr.org.

Professional response. The most effective response to anti-animal research extremists is to inform. Education is critical to the public's understanding of the importance of animal research. We advocate for teaching how science and biomedical research is accomplished to students from elementary school through college, including medical school entry classes, and also educating individuals in the community at large about the benefits of animal research. A recent study at the American Academy of Neurology (AAN) demonstrated a significant change in attitudes of medical students toward animal research after viewing an educational video on preclinical research (D.Q. Beversdorf, N.R. Adams, unpublished, 2015).

Response to attacks. Attacks on animal researchers led to the establishment of Best Practices generated by the Committee on Animals in Research (CAR) of the Society for Neuroscience (SfN). The genesis and motivation for the formation of CAR was the UCLA Task Force's document in response to multiple attacks at their institution (available at the SfN Web site).³³ This document focuses on how universities can best respond to attacks on their scientists and should be presented to the university leadership before an attack occurs. It should be distributed to all universities and research institutions and the plans implemented to preempt attacks and respond to threats. Assistance to members under attack is included in the guidelines.³³ In the future, researchers would be afforded better protection if university leaders provided explicit public affirmation of their support for animal research and adequate resources for security and appropriate law enforcement. Universities should also advocate for legislative protection for the future of research. The role of the university in the protection of researchers is further reviewed by Kordower.³⁴

The neurologist's response. In response to anti-animal research extremist activities, neurologists and neuroscientists are in an enviable position to be proactive in educating the general public, patients, and students. Educational brochures are available from the AAN to help in this regard. At every opportunity, we should make clear how development of new treatments and breakthroughs are accomplished. We should discuss how unexpected translational breakthroughs often result from basic science research for which no

obvious clinical implications were initially apparent. Subsequent research typically involves animals. The public should be made aware that strict rules and regulations already exist to protect the welfare of research animals, prevent mistreatment and undue pain, and ensure optimal care. Every animal study performed at a research institution in the United States is subject to approval by an Institutional Animal Care and Use Committee. This committee requires that the investigator identify alternatives to the use of animals, provide statistical defense of the number of animals needed to perform the studies in order to minimize the number of animals used, and review the procedures to minimize distress and maximize care for the animals. Approval by this committee is also required for funding of grants involving animals by the NIH and most other public and private funding sources that support academic research. The Association for Assessment and Accreditation of Laboratory Animal Care also requires external review of the animal care facilities and their policies and procedures.

The threat to biomedical research has not receded. New threats are still emerging, including the potential for cyber-attacks, which must be taken into account for future research security planning. In order to preserve the research pipeline to better health, creative efforts must be invested now to educate the public about how advances in neurology and neuroscience occur and to justify the use of animals to advance biomedical research.

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