

GREY MATTERS

Many scientists have nuanced views on animal research. But they are rarely heard, says **Emma Marris**.

Many readers of *The Guardian*, a British newspaper, will have been surprised at a recent online article in which Sophie Petit-Zeman, a neuroscientist and journalist, explained how she could at the same time be a vivisectionist and a vegetarian¹. But they will not all have been surprised in the same way. Some will have been surprised at the existence of such a complex position in an area where much of the discussion is depressingly black and white. Others will have been surprised not by the position itself, but by its being discussed in public.

As a poll of *Nature* readers working in the biomedical sciences reveals, many scientists who work on animals have complex takes on the issue. But they are not often willing, or encouraged, to express these feelings. Some of this is directly due to fear of animal-rights extremists; some is an indirect effect of the polarized atmosphere that surrounds the issue. In some labs, at least, scientists feel pressured to keep quiet about the grey areas of debate, lest they undermine the official mantra

And how do they square the ethics of it all? As well as polling our biomedical readers (for full results see <http://www.nature.com/news/specials/animalresearch>), *Nature* set out to get some voices from the front lines — and found a lot of ducked heads. It would be fair to say that the average researcher prefers not to talk to the press about his or her work. And yet, there are those who are not only willing to talk, but have plenty to say. It quickly becomes clear that each researcher has his or her own system of ethical equations in place, but that the simplified pro-con debate makes it very difficult to communicate this — or have any kind of calm conversation about animal research.

So let's meet the researchers. Tom Burbacher runs an infant primate lab at the University of Washington in Seattle, which models the cognitive effects of prenatal exposures to environmental contaminants in macaques. He talks publicly about his work, but does not defend the entire enterprise of animal research, believing it is a waste of time to defend such a large, abstract concept. He adds that he feels that his work, which is clearly linked to human health, is easier to explain than some blue-sky research, such as mapping the brain or describing how vision works. "There is a lot of basic research going on that is harder to talk about," he says.

Burbacher got involved in toxicology as an undergraduate, and has been working with

animals ever since. "I had a study that followed animals from the time they were born until they were more than 20 years old. I got old with them," he says. Then, they were killed. "It was tough," he says. Burbacher is not shy about the emotional toll that working with animals can sometimes take. He says the toll is two-fold: "It does wear on you sometimes. I have on different occasions thought about getting out. The death of an animal is an acute stress, but the activists are a chronic stress."

Fine lines

Chris Harvey-Clark, director of the Animal Care Centre at the University of British Columbia in Vancouver, has even greater day-to-day contact with animals, working with research subjects from sea lions and hummingbirds to

transgenic mice. Harvey-Clark, like many in similar positions, was once a private-practice veterinarian, and remains a confirmed animal-lover, saying he often feels emotionally closer to his charges at the centre than to his old clients' pets. In the face of their inevitable deaths, Harvey-Clark must work to retain his humanity and empathy. "How do you keep caring for the animals without being scorched by the fact that you are using them up?" he asks.

His answer lies in the fact that suffering and death have long characterized the relationship between humankind and the animal kingdom — from animal predators that prey on humans, to the slaughter of wild and farmed animals by humans for food. As Harvey-Clark puts it, "without a farm background, it is hard to understand that you can both care for things



and also understand that they are going to wind up being food, or data”.

It's a perspective shared by many scientists, including Cynthia Otto, a clinical veterinarian and researcher, who is also a disaster-scene veterinarian with the Federal Emergency Management Agency. She has cared for search-and-rescue dogs in the immediate aftermath of the terrorist attacks of 11 September 2001 in Manhattan, and has gone looking for pets left behind by Hurricane Katrina in New Orleans. She kills rabbits in research, but she also treats pet rabbits as a vet. “I also eat meat. I respect what the animals can give me. If I was not going to do any animal research, I would not eat meat or wear leather, but in a certain way, I feel like that would be less respectful — not taking advantage of what they can give us.”

But somehow, the complexities of arguments such as these seem to have been lost. “Whenever you talk about the research, the stock answer is to say that we are curing cancer or saving premature babies. You don't talk about finding out what a bit of the brain does just because you are

quite curious to know,” says one UK researcher, who works with rats, but prefers not to be identified because he worries that he might be targeted by animal-rights activists. “I have heard animal-research advocates say that you have to say everything as nicely as possible, and that edges towards fabrication. They say that everything heads towards a cure for something and that all the experiments work. We should be more honest because a lot of people will still go along with it.”

Finding a voice

The same researcher feels that some scientists go so far as to imply an anguish they don't really feel about the practice. “I think the standard thing that people tell you is that they are some sort of tortured soul that can't sleep at night but have to do it to cure cancer. I do feel bad about using rats but I can sleep at night — we use the fewest possible and try our best to ensure they suffer as little as possible. People have been pushed into portraying themselves like that because of animal-rights activities.”

The silence — or spin — from the researchers may be most profound in the United Kingdom, where radical animal-rights activists have perhaps the longest and most disruptive history. Colin Blakemore, a neuroscientist who has long been the target of animal-rights extremists' activities and who now heads the UK Medical Research Council in London, says that this strategy is flawed. “We are perceived as being distant and unwilling to speak and therefore as having something to hide,” he says. Blakemore has encouraged universities to let their faculty members talk freely about their work and supported more public scrutiny of animal research.

But Blakemore doesn't necessarily believe that there is much hidden discussion or soul-searching about animal research inside the field, apart from complaints about the bureaucratic acrobatics involved in working with animals. “It is not the kind of thing that's always talked about in the coffee room,” he says. And yet he has his own shades of grey. Although he vigorously defends the practice, he is relieved to be done with his years working directly with animals, despite his consistently vigorous defence of the practice. “The longer I used animals, the less comfortable I was with it,” he says. It's a sentiment he believes is common in the research community. “I don't know of a

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single scientist who would not prefer to use alternatives if they were available.”

Burbacher believes that talking about the details and benefits of his work is the best policy. Activists have left black roses on his doorstep and mobbed his office, but he keeps talking.

“The more people know about what is going on in the lab the better,” he says. But even he is circumspect when he first meets people. “If I don't know the people very well, I usually tell people I teach. You can usually tell whether the animal part should be brought up or not.”

Marin Stephens, vice-president for animal-research issues as the Humane Society in Washington DC, believes that the polarized debate has harmed communication between researchers and mainstream groups such as his organization, which favours a reduction in animal research. “There is not a lot of cross-talk,” he says. “There is a lot of stereotyping and demonizing on both sides.” He adds that the Humane Society co-founded a confidential group of stakeholders from both sides that is



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meeting to discuss the issues and to try to undo some of this polarization.

"In my own experience, I have found a diversity of opinion in the research community," says Stephens. "Some care greatly for animals and are very helpful in changing the status quo. Others see things in black and white and have no use for people like me." And researchers aren't the only ones being unfairly lumped into one position. Stephens says that the Humane Society has sometimes been grouped with disruptive extremists for political reasons. "If you pin down individual researchers, they would admit that there are different perspectives in the different groups," he says, "but what one hears quoted is that they are all of a piece."

To find out more, *Nature* conducted an anonymous survey of 1,682 readers working in the biomedical sciences. What we found supported the claims quoted here: that there is a diversity of opinion within the community about animal research, with many respondents calling for more dialogue among scientists and with the public. The majority of respondents, just over 70%, believed that the animal-rights movement had made voicing a nuanced view of animal research in public more difficult for individual researchers. Some commented that it also hindered debate within the science community of how to best do animal research.

Otto says she has experienced this dampener on discussion first-hand. She is trying to develop alternatives to using animal models in her speciality, the study of sepsis. She wants to move away from disease-model animals to real sick animals in veterinary practice. She believes they will be better models, but part of her motivation is to help individual animals. "Naturally occurring diseases might be a better reflection of what is going on in a human than inducing something in a mouse or a rat.

People's pets that spontaneously develop these overwhelming infections need the treatment, and we would be more responsible because we are not actually creating diseases in animals."

Otto says she's had a hard time getting a hearing for her proposal from researchers resistant to change. And she's not alone. Ian Roberts, epidemiologist at the London School of Hygiene and Tropical Medicine, put forward the idea in a recent article in the *British Medical Journal* that all animal-research studies should be preceded by systematic reviews of their clinical utility, as human trials commonly are². To illustrate the helpfulness of doing so, he and his co-authors surveyed some reviews that said many animal studies were of dubious worth.

Although there were some considered objections to the paper, including one from Blakemore³, there were also some angry responses from both sides. "One of the things that made the argument more difficult," Roberts says, "is that in animal experiments, views are so polarized that you can't get any serious discussion about the methodology. When we first published, we were accused of being anti-vivisectionists, and then of being vivisectionists. The whole debate seems to cause people to become emotional and irrational."

Rational responses

So what can be done? Discussion groups such as the one Stephens attends are one potential solution, as is the Boyd Group, an independent UK forum founded in 1992 to produce solid information about animal research and bring those of differing opinion together. The group was founded by Blakemore and Les Ward, an animal-rights activist. Ward has since left the

group, which he says has become stalemated. But he believes the group was useful in that it was one of the few places where moderate activists and moderate scientists sat down and talked things over.

"I want to see the total end of animal experimentation, but I am not stupid enough to think that it is going to happen overnight," says Ward. "Everyone has to be willing to move their position." Ward says that scientists rarely sought him out to talk about their qualms about research, but when he visited labs, he was swarmed. "It was clear to me that they wanted to speak," he says. "They were intimidated, but claiming intimidation is also a dodge to avoid having to speak."

Another inclusive effort was the Nuffield report⁴, a two-year effort to capture the state of the debate run by the UK-based independent Nuffield Council of Bioethics. Barry Keverne, chair of the Royal Society's animal-research group, says it was one of the best. "They produced a huge document — it has all members of society in it, lawyers, historians, philosophers, scientists and anti-vivisectionists. Most scientists have no problems discussing this openly with people who have a genuine interest."

In Europe, the moderate approach is more established. Vera Rogiers is a toxicologist at Vrije University in Brussels, Belgium, and the chair of ECOPA, the European Consensus-Platform for Alternatives, which promotes the development of alternatives to animals in research. She says that in the rest of Europe, the discussion is more "healthy". "Most people are very well aware of the dialogue and the development of alternatives. We ask that the people who are around the table sign a statement that

they accept the three Rs — reduce, replace and refine. Usually all the people that we have around the table have no problem with that."

The old adage may truly fit here: there are as many views about animal research as there are thoughtful people. But as long as the debate is played out as a ping-pong game between hard-core activists and hard-core defenders, anyone in the middle who stands up to be heard risks getting hit.

Emma Marris is a reporter for *Nature* based in Washington DC.

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— Colin Blakemore

1. Available online at: http://commentisfree.guardian.co.uk/sophie_pettizeman/2006/08/confessions_of_a_vegetarian_vii.html.
2. Pound, P. *et al.* *Br. Med. J.* 328, 514–517 (2004).
3. Blakemore, C. & Peatfield, T. *Br. Med. J.* 328, 1017–1018 (2004).
4. Ethics of Research involving animals by Nuffield Council of Bioethics (May 2005). Available online at: http://www.nuffieldbioethics.org/go/burwork/animalresearch/publication_178.html.