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OPENING THE LAB DOOR

After a slew of victories by animal activists, scientists hope more candor will win support for animal research

By **David Grimm**, in Beaverton, Oregon

As soon as the big yellow school bus pulls into the parking lot of the Oregon National Primate Research Center (ONPRC) here, it's clear that many of the high school students on board don't know what they've signed up for. They know that science happens somewhere on this wooded, 70-hectare campus west of Portland—and that they may get to see monkeys—but everything else is a mystery. “Are we going to go into some giant underground lair?” asks a lanky

sophomore in a hoodie, imagining that the center is set up like a video game or *Jurassic Park*.

Diana Gordon is here to disabuse him of both notions. As the education and outreach coordinator of the country's largest primate research center, she spends her days guiding students, Rotary clubs, and even wedding parties through the facility. Here, visitors see monkeys in their habitats and meet scientists—all while learning, Gordon hopes, that the animals are well-treated and the research is critical for human health. “If

we don't speak up, there's only one side being heard,” she says. “The side that wants to shut us down.”

That side has been racking up victories recently. In the past 6 months, animal activist groups have won bipartisan support in Congress to scuttle monkey and dog studies at top U.S. research facilities; they have also helped pass two state bills that compel researchers to adopt out lab animals at the end of experiments. The public itself seems to be turning against animal research: A Gallup poll released last year revealed that

PHOTO: ROGER WERTH

High school students on a tour view monkeys in the largest habitats at the Oregon National Primate Research Center in Beaverton.

“When that happened with gay marriage and marijuana legalization, the law changed,” he tells audiences. “If we keep being secretive about animal research, our laws are going to change, too. Funding will dry up, and our work will get a lot more difficult.”

His talks strike a nerve with a community blindsided by recent high-profile defeats. In January, the U.S. Food and Drug Administration shut down a study of nicotine addiction in monkeys over the objections of dozens of scientists who said the research was important for understanding addiction in people. And in March, President Donald Trump signed into law language from the “Puppies Act,” banning many dog experiments at the U.S. Department of Veterans Affairs, despite an open letter from 40 scientific and medical organizations arguing that the work helped develop human therapies. Both efforts were led by the White Coat Waste Project, which has rallied both liberals and conservatives to its cause by painting such studies as “dog torture” and a waste of taxpayer money.

A similar strategy has worked at the state level for the Los Angeles, California-based Rescue + Freedom Project. It often tweets pictures of dogs with big, sad eyes, saying they must be “rescued” from “cruel animal testing,” but the organization also appeals to growing antiestablishment sentiment. “We take advantage of the fact that Republicans don’t trust ‘elites’ or science itself,” says the group’s former vice president, Kevin Chase, who left last month to work in the private sector.

In 2014, Minnesota passed the first “Beagle Freedom Bill,” which requires labs to make their animals, typically dogs and cats, available for adoption after experiments instead of euthanizing them. Seven more states followed suit, including Delaware this month. Legislators were undeterred by aggressive lobbying from animal research groups, which claim the bills vilify labs and make scientific studies more onerous.

Such tactics work on the public as well as politicians, Buckmaster says, because the average person doesn’t understand the importance of basic research or that failure is a normal part of the scientific process. “These groups ... make animal research seem like the biggest waste of money on the planet, all while painting scientists as evil science-fiction characters.”

Ken Gordon doesn’t blame activists, however. He blames the biomedical community. Today, most U.S. universities post little, if anything, on their websites about their ani-



only 51% of U.S. adults find such studies morally acceptable, down from 65% in 2001.

Critics blame a research community that, cowed by decades of animal rights campaigns, has retreated to the shadows, hiding research animals and the discoveries they make possible. “We’ve failed abysmally in communicating scientific progress to the general public,” says Cindy Buckmaster, chair of the board of directors of Americans for Medical Progress, a non-profit in Washington, D.C., that promotes the need for animals in labs. The string of defeats, she says, “should be a cataclysmic wake-up call.”

To fight back, Buckmaster and others urge a new era of U.S. transparency: universities that talk openly about their animal work, animal researchers who engage the public and politicians, and ONPRC-style tours and outreach. Such transparency appears to have borne fruit in the United Kingdom, where public support for animal research is up for the first time in years.

But will stepping back into the limelight win converts in the United States—or play into the opposition’s hands? Labs can ma-

nipulate what they show the public, and many research groups are fighting openness, says Justin Goodman, vice president of advocacy and public policy at the White Coat Waste Project, a leading animal activist group in Washington, D.C. “Transparency is just propaganda.”

And, ONPRC aside, it’s not clear that many scientists and universities are ready to open up about their animal experiments. “Everyone is waiting for someone else to make the first move,” says Ken Gordon, executive director of the Seattle, Washington-based Northwest Association for Biomedical Research. “Until someone does, it’s not going to happen.”

KEN GORDON LIKES TO SHOW a particular slide when he speaks to administrators and animal care staff across the country. It’s a line graph, based on Gallup polls, tracking the past 17 years of U.S. attitudes about animal research. As time ticks by, a blue “morally acceptable” line creeps downhill, while an orange “morally wrong” line climbs higher. According to his extrapolations, the lines will intersect in 2023 (see graph, p. 1394).

mal research. And many scientists are reluctant to discuss their animal work because of their own fears or university pressure.

"In the old days, researchers at my university used to take their spider monkeys out for walks," says Susan Larson, an anatomist at the State University of New York (SUNY) in Stony Brook. "Now, everything's a secret."

Larson says SUNY Stony Brook urged her not to talk to outsiders about her work studying locomotion in chimpanzees, "even though most of what we were doing was videotaping them walking around." Once animal activists found out about the research, she says, "they made it sound like I was doing awful things, like sticking electrodes in their heads." Activists also launched a 2-year legal battle to free the animals (*Science*, 6 December 2013, p. 1154). "In the end, by not talking to people, it looked like we were trying to hide something," says Larson, who says her university forced her to end the project to avoid any more bad press. (SUNY Stony Brook did not respond to multiple requests for comment.)

IN 2007, an activist with People for the Ethical Treatment of Animals (PETA) in Washington, D.C., infiltrated ONPRC. Hired as an animal care technician, she shot videos of monkeys in small, barren cages. In an ensuing campaign, PETA claimed the animals ate food mixed with feces, pulled their hair out as a result of stress, and lived in constant fear of lab workers. The U.S. Department of Agriculture (USDA) investigated, but found no animal welfare violations. "Yet the video lives on," says Diana Gordon, "and it still rears its ugly head." (A PETA spokesperson notes that USDA has cited ONPRC for several violations of the Animal Welfare Act since then.)

But ONPRC did not retreat. Instead, it scheduled more tours and encouraged its scientists to engage the public. "There was a universal realization that we needed to do more to help people understand what we were doing," Gordon says.

Today, she leads the high school students along a dirt path that skirts several enclosures made of chain-link fence and cinder blocks. Inside each, a couple of dozen rhesus macaques scale the fencing, chase one another on a spinning metal wheel, and swing from a tire tied to a rope. Several new mothers clutch babies to their chests; some female students coo at them.

More than 3000 macaques live in enclosures like those or in larger open-air arenas. Another 1500, which researchers are actively studying, are housed in a building off-limits

to the tour. Gordon says those animals may be susceptible to human diseases and, unlike the others, aren't used to seeing large groups of people and would be stressed by visitors.

She tries to tackle head-on any misconceptions the students may have. "If you see these animals smacking each other, they're just establishing dominance. Some are losing their hair, some have red bottoms—this is normal during mating season. And here's what monkey chow looks like," she says, passing around a plastic baggie filled with brown pellets. "Yes, it looks a bit like poop, but it isn't."

ONPRC's approach echoes one many U.K. research facilities have taken to heart. After

Inspired, nearly 100 animal facilities in Spain signed a similar agreement, and last week 16 institutions in Portugal did the same. In February, about 100 U.S. scientists, veterinarians, and university administrators gathered in San Francisco, California, to call for more transparency from the country's animal labs. One upshot: a proposed U.S. Animal Research Openness Agreement, which if formalized would bind signatories to be more candid about the animal research they do, much like the U.K. concordat.

"You could go through the halls of our university and not find any information about where our medical advances came from," says Larry Carbone, director of the animal care and use program at the University of California, San Francisco. He says his university will try to put more of its animal research online. "It should be the first thing a kid doing a term paper on animal testing encounters."

Likewise, Johns Hopkins University in Baltimore, Maryland, plans to step up its game. "Our animal use page was a 50-word paragraph," says Audrey Huang, the university's director of media relations. She's pushing the school to talk more about its animal work in press releases, and Hopkins has begun to make videos about the lab animals it adopts out—a program Huang says was in place long before the Rescue + Freedom Project came on the scene. In one

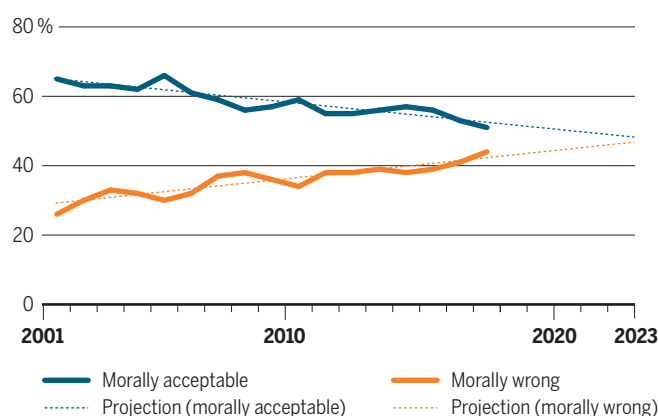
video, *A Home for Louie*, a 1-year-old hound that had been implanted with a lung device to study asthma plays fetch and cuddles with his new owner on the couch.

The University of Wisconsin (UW) in Madison is taking things further. Press releases about animal research at other universities usually skate over sensitive information, but UW's describe injecting monkeys with Ebola virus and performing heart surgery on pigs, for example, and its web pages detail its animal research program. UW also posts its USDA inspection reports online, even after the agency began scrubbing them from its own website in a controversial move last year (*Science*, 26 May 2017, p. 790).

Those reports sometimes criticize university practices. But disclosing them not only is honest, says UW Director of Research Communications Terry Devitt, but can also preempt animal rights groups like the Milford, Ohio-based Stop Animal Exploitation Now (SAEN). Such groups have staffers dedicated to unearthing the USDA reports and blasting them out to journalists, in campaigns that have triggered huge fines and even lab closures.

Collision course

U.S. support for animal research is declining, alarming research groups.



years of animal rights extremism, such as physical assaults and setting fire to buildings, the London-based Understanding Animal Research (UAR) launched the Concordat on Openness on Animal Research in the UK in 2014. Most U.K. institutions have now signed the agreement, pledging to be more transparent about how and why they use animals (*Science*, 14 July 2017, p. 119). The University of Oxford posts 360° photos of its animal holding and testing facilities, for example, and the University of Cambridge takes web visitors inside its rodent research, showing videos of rats that have had brain surgery to give them symptoms of obsessive-compulsive disorder.

"It's never as bad as people think it will be in their imagination," says Wendy Jarrett, UAR's CEO. "And the message is more powerful if it comes from the institutions themselves rather than from groups like ours."

The strategy appears to have had an impact. U.K. public support for animal research has ticked up in the past few years, according to polls, and Jarrett says the number of negative news stories about animal experimentation has dropped.

"When things go wrong, fess up, correct it, and tell the world about it," Ken Gordon says. "If it has to be dug up, it makes it look like you were trying to hide something." He also has floated the idea of livestreaming video from animal facilities. Others have suggested filming inspections and conducting live video chats during animal procedures. Gordon calls such efforts "radical transparency" and hopes they'll get millennials, whom he says value brutal honesty, on board. But whether scientists themselves will embrace transparency remains to be seen.

IN THE EARLY 2000s, animal rights groups got wind of a lab at the University of Mississippi Medical Center in Jackson that used surgery on live dogs to teach medical students. Activist campaigns forced the school to switch to pigs, but it was soon assailed again. "The dean was getting thousands of calls and emails," says Thomas Lohmeier, a cardiovascular researcher at the center who uses dogs to develop cardiac implants for people. "So we shut down the pig lab, too. The university just didn't want to deal with it anymore."

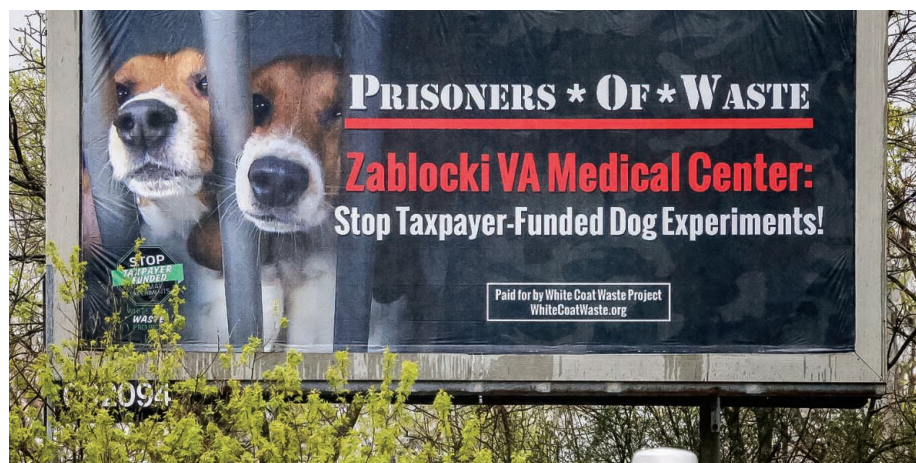
Lohmeier kept his own research under the radar for 30 years for fear of being targeted. "I was concerned about myself and my family," he says. "I was worried they'd shut my research down, too."

He thinks transparency won't stop animal rights activists, let alone bring the public back. "You can explain why your research is important, and this and that, but the animal rights folks won't care."

One animal rights activist, SAEN Co-Founder Michael Budkie, says Lohmeier is right. "More transparency won't stop us from doing what we're doing. You can't put a good face on animals being seriously injured or killed."

The White Coat Waste Project's Goodman adds that outreach efforts like ONPRC's are just a whitewash. "ONPRC's tour skips the research monkeys," he says. "It's essentially a day at the zoo." He says the research community has, in fact, been resisting transparency. He points to a U.S. Government Accountability Office analysis, released last month, showing that a variety of U.S. research organizations don't want federal agencies to release more data on animal experimentation. "They're fighting transparency at every turn."

Even if U.S. institutions do become more open, that doesn't guarantee it will sway the public. U.K. polls showing increased support for animal research as the openness initiative took hold don't prove the two are related. And Jarrett admits that the United Kingdom may not be a perfect model for the United States.



The White Coat Waste Project uses images of dogs in cages on their billboards (top), whereas pro-research groups like Americans for Medical Progress shoot images of scientists bonding with animals (bottom) for use in their ads.

"When activists got bad here, our government criminalized extremist activity with up to 15 years in prison," she says. Animal rights activity dropped off precipitously after that, she says, which made speaking up easier. "In the U.S., someone can still shine a light in your room in the middle of the night."

FOR NOW, the public relations battle between the animal research and activist communities rages on. The Rescue + Freedom Project is pushing Beagle Freedom Bills in three more states, and last month the White Coat Waste Project began a new campaign targeting USDA for allegedly killing dozens of cats a year for parasite research. The group calls it "taxpayer-funded kitten slaughter."

Meanwhile, Speaking of Research, an international organization that supports using lab animals, has launched a Rapid Response Network, which sends out email alerts to counter animal rights campaigns. The goal is to engage scientists by prompting them to send letters or sign petitions in support of animal research. The network launched its first offensive last week with an open letter published in *USA Today*

and signed by nearly 600 members of the U.S. scientific community, calling for more transparency in animal research.

"There is power in numbers," says UW psychologist Allyson Bennett, one drafter of the proposed U.S. openness agreement. "You don't need everyone on board—you just need critical mass."

Back at ONPRC, Diana Gordon continues her own campaign. The students end their day in an auditorium with three scientists sitting at a table up front. Reproductive physiologist Carrie Hanna tells the group she once wanted to be a veterinarian. At ONPRC, she says, she's using baboons to develop a compound that blocks fallopian tubes, potentially leading to a permanent contraceptive for women. She explains that her work is heavily regulated and that she cares about the primates. "We take animal welfare very seriously," she says. "We're animal advocates, too."

The hoodie-wearing sophomore seems content, even though he didn't get to see an underground lair or meet any wild-eyed scientists. "They just seem," he says, a bit disappointed, "like average people." ■

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