It's a Jungle in Here

It's been some eighty years since primate research began at UW–Madison, bringing with it a hornet's nest of ethical debate. For the most part, the public ignores the vitriol, viewing the rhetoric on both sides as extreme and out of touch with our normal, everyday concerns. Meanwhile the monkeys—in Madison, thousands of them—continue to live and die in captivity. Is it high time humankind decided what we think about it?

by MAGGIE GINSBERG-SCHUTZ

"Of course we would rather have the drugs and surgical procedures and the wonderful medical advances without being told that so many hundred animals died for that information. And if we do know that animals are used, at least we would rather be spared seeing them bleeding in a medical test." — DEBORAH BLUM, ***MONKEY WARS***

WE'RE INSIDE. IT'S A WINDOWLESS BUILDING THE COLOR of cold salmon, tucked in a rarely traveled pocket between Orchard and Charter on Capitol Court, only a block off one of the city's busiest streets. The small lettering etched on the locked glass doors reads "Wisconsin National Primate Research Center." Somewhere around fifteen hundred monkeys are in here with us or in the building across the alley. There are approximately two thousand on campus.

The WNPRC is one of only eight federally funded facilities of its kind in the United States. Between its two buildings, the adjacent Harlow Primate Lab, and a handful of spots throughout campus like the psychology department and the med school, rhesus and marmoset monkeys are the subjects of research spanning aging, reproductive health, HIV and AIDS, Parkinson's disease, fetal alcohol syndrome, behavioral studies and much more. These labs, where stem cell studies are underway, are a key reason the University of Wisconsin–Madison is a research powerhouse. And for as long as nonhuman primate research has been going on—here since the 1930s—so has the opposition to it.

It used to be that you—anyone—could walk in off the street and see the monkeys. Today, due to a complex combination of health and safety, security, liability and PR issues, you'll likely not get in without a very good reason. One of those reasons might be when a journalist comes knocking, and officials decide to gamble in hopes that the story will not be one-sided. That there might be a real opportunity for public outreach, because those opportunities are increasingly rare. For a long time now, researchers and animal rights activists have been bitterly embattled. Both sides have a lot to say, but neither knows whom they can trust.

Inside, it is shockingly quiet, the only sound the shuffling of our shoes over the hum of the radiator. We've submitted our TB test results, our driver's licenses and Social Security numbers. We've perused the eleven documents and signed on all the dotted lines. We have stripped down to our underwear, donned scrubs, and layered long-sleeve Tyvek jackets over them. We've strapped masks over our noses and mouths, pushed our hair inside shower caps, and pulled a clear face shield over the top of all this. We have slipped the booties over our shoes, and double-gloved our hands with latex.

Our guide, Saverio "Buddy" Capuano, is the attending veterinarian and associate director of Animal Services at the WNPRC. He took this job because he loves monkeys more than anyone, because this is a way for him to get close to them all day long. He has been working with captive primates for twenty-six years, the last three of them here in Madison. His eyes, almond in shape and color, are kind through his splash shield.

"I think you'll find it very quiet in here," he says, his hand resting flat upon the door to the first of many rooms full of caged rhesus monkeys. "These guys are used to people."

I catch our reflection in the window of the door as Buddy slides it open. We don't look like people to me.

RICK MAROLT IS ONE OF THOSE

"crazy" animal rights activists you're always hearing about. More accurately, he is an "antivivisectionist," a term embraced by opponents of animal research. By Webster's definition, it means he is against cutting open a body while it is still alive.

There are no maps plotting destruction of the monkey labs pinned to his living room wall. He is not wild-eyed or foaming at the mouth. He is sitting quietly at his kitchen table on a bright winter morning, surrounded by neat stacks of paper that detail meticulously researched conclusions based on years and years of personal study. A sharp slant of sunlight temporarily morphs his glasses into miniature mirrors, framing identical twin cups of steaming coffee. When he opens his mouth to speak, each word is steady, carefully measured.

"The problem is, they just view us as the opposition," he says. "It's a forty-five-year-old issue. Society doesn't agree with you, we don't agree with you, so why should we even waste our time when we're not gonna get anywhere? And it's not a completely invalid perspective."

Marolt is a thoughtful guy who tries hard to look at all perspectives, to keep a level head whenever he can. He doesn't like PETA, doesn't think effective social change occurs through extreme tactics. He's led a pretty conventional life, with a

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bachelor's degree from Carleton College and a master's from Princeton. Three years ago he finished his MBA at UW–Madison at the top of his class. He's a former insurance company executive and now works as a consultant and an adjunct business instructor at both Edgewood College and UW.

"I am not your typical animal rights activist wacko," he says with a wry smile.

Marolt reads everything he can get his hands on—scientific journals detailing specific UW experiments; books by doctors like Ray Greek, who decry the use of the animal model as ineffective and fraudulent; essays and articles by proponents on all sides of the animal research issue. But he no longer reads *Madison Magazine*, not since that day last year when he saw Richie Davidson smiling out at him from the November 2007 cover, beneath a banner reading "Person of the Year."

The article inside told of UW professor Davidson's work as a pioneer in the field of affective neuroscience. It mentioned that he'd earned his Ph.D. from Harvard by the time he was twenty-four. It mentioned his presentation to the Nobel Committee, and *Time* magazine naming him one of its "100 Most Influential People." It mentioned his close personal friendship with the Dalai Lama, and the high esteem he's held in by his colleagues around the world. It did not mention his work with monkeys.

"Richard Davidson does experiments on monkeys in which he frightens them, opens their skulls, destroys up to ninety-eight percent of the emotional centers of their brains, then frightens them again," says Marolt. "If Davidson did these experiments on people, he would be considered evil and he would be vilified. But the media ignore his experiments on monkeys even though he justifies them by invoking the similarity between humans and monkeys."

Rick Marolt says "the great paradox of animal research" is that monkeys are so similar to us.

CARE IN CAPTIVITY: The UW primate labs operate 24/7. At left, and animal care technician feeds rhesus monkeys their daily afternoon snack—grapes in this case. (Opposite) Psychology and psychiatry professor Richard Davidson

For Marolt, Davidson is just one in a crowd of hundreds like him. From his pile of papers on the table he can pull example after example of scientists injecting the fetuses of pregnant monkeys and killing the babies; sticking syringes in the eyeballs of monkeys; drilling holes in monkey skulls—and these are just the things they mean to do. He also cites dozens of examples of mistakes, of experiments gone horribly awry due to human error.

"How can these things be ethical?" he asks. "When it's based on the premise that monkeys are so similar to humans we're gonna learn something that will apply to us, well, then, how come they're not so similar that human ethics would apply to them? It's the great paradox of animal research."

Scientists prize the monkey model because it is so similar to the human one, but to Marolt, this is the ultimate hypocrisy. Besides, it's not the physiological similarities that most stick in Marolt's craw, it's the undeniable emotional ones: the way monkeys feel. The way they hug each other. The way they empathize. The way they forge lifelong bonds with a partner, and sleep with their tails intertwined. These are the similarities that matter most to him.

In 1964, Northwestern University psychiatrist Jules Masserman conducted a study in which rhesus monkeys learned if they pulled a chain, food would appear. They also learned that when they pulled that chain, a fellow monkey, one they could see through a Plexiglas window, received a shock. The majority of the monkeys refused to pull the chain, choosing to go hungry rather than inflict pain upon another monkey. One monkey went twelve days without eating. It's studies like this Marolt can't forget. But what gets to him the most is how most people view animal research as a necessary evil.

"The researchers will frequently say they're working on cures for cancer. They're working on cures for AIDS. 'Every medical advance we've ever gotten has come out of animal research.' But these are just generalizations driven by emotion," says Marolt. "People want to believe that. They have a need to believe it. But nobody investigates it."

These generalizations work because we're all affected by disease, cancer in particular. We know someone who has it, or had it, or died from it. So we walk in charity walks, drop our spare change into donor buckets—but do we ever really think about what "research" means?

"It's always the promise, it's the hope. And that's what fuels people," Marolt says. "But there's no concern for how much money we're putting into it, how much suffering there is, how much we're getting out of it. It's just a need to believe."

What Marolt believes is that he and others like him are often blamed for standing in the way of the cure, and not just to their faces. A UW Health newsletter entitled "Parkinson's Perspective," readily available

PHOTOGRAPHS BY (TOP) JORDANA LENON / WI NATIONAL PRIMATE RESEARCH CENTER (BOTTOM -LEFT) MATTHEW WISNIEWSKI


Richard Davidson

in the clinic waiting room, criticized activists on its front page. "Unfortunately, there is a minority that wants to take away the hopes of Parkinson's disease patients," it reads. "The reader may know these people as 'animal rights activists.' But those who seek to ban all animal research ... are actually anti-patients' rights."

To many antivivisectionists, it's just one small cog in the well-oiled machination of the university's public relations arm. It feels like a smear campaign, not to mention a terrible oversimplification and misunderstanding of the realities of animal research.

RICHARD DAVIDSON WAS SURPRISED the animal rights activists chose him as the latest vehicle to force the issue of monkey testing to the forefront. He is not leading any federally funded studies of monkeys. He says 99.9 percent of his own research is conducted on humans, including him.

His name does appear, however, alongside Dr. Ned Kalin's on at least a dozen papers published in professional medical journals. Kalin is chair of the UW–Madison psychiatry department and director of the medical school's Health-Emotions Research Institute, and the articles detail numerous experiments on monkeys. Davidson and Kalin are part of a powerful collaborative team credited with important discoveries in the roles played by the amygdala and the orbitofrontal cortex in fear and anxiety. The monkey research is simply an extension of the work Davidson does on humans, focused on understanding brain mechanisms, particularly mood and anxiety disorders. And though he doesn't know exactly how often Kalin's monkeys are tested, he says they are world pioneers in developing non-invasive methods of probing the monkey brain, because the ultimate goal is to help both nonhuman and human primates.

"The motivation for doing this work is to relieve suffering," says Davidson. "The disorders that this work is addressing are devastating disorders which are among the world's major causes of morbidity and mortality. We need to ask ourselves continuously and very honestly and rigorously, what the motivation is for the work that we do. It is our conviction that this work has the potential of leading to major new understanding and thus the development of new interventions that can potentially tremendously reduce the suffering and the burden of mental illness."

> **"We need to ask ourselves continuously and very honestly and rigorously, what the motivation is for the work that we do."**
>
> *— Richard Davidson*

He's not surprised, though, that opponents like Rick Marolt take issue with his work, and the work of his UW colleagues. This is not news, not a shocking turn of events. The river of contention runs old and deep and when you're swimming in it, it's pretty hard to miss.

Davidson sees room for improvement on the part of his fellow researchers, thinks they could work harder to develop a culture of gratitude for the animals they work with, to respect them as teachers. At the same time, he thinks some animal rights activists are oblivious and insensitive to the suffering endured by people with mental illnesses. It may not be cancer, but the effects of psychological disorders can be just as devastating, even fatal, to those plagued by them.

OF THE FEW PEOPLE WILLING TO REACH out and engage the other side, Dr. Eric Sandgren is the most familiar face. He's the one you'll see squaring off against animal rights activists on public access television, the one you'll hear most often quoted in the local paper. Though he does not test on monkeys, he conducts research on mice in his UW lab in the Department of Pathobiological Sciences at the vet school. The antivivisectionists seem to respect him, and vice versa, simply for his refreshing willingness to have the debate at all—though he certainly understands why his colleagues will not.

"There's a tremendous hypocrisy when the activists accuse people who use animals in biomedical research of not being willing to speak out," says Sandgren. "Because those who do very routinely have it thrown right back in their face, have people outside their houses. Why try to go out and speak with these groups when you're putting yourself at risk?"

Antivivisectionists frequently accuse the university and its researchers of having something to hide, but Sandgren feels that argument is grossly simplistic. For one, this fear of harassment—even attack—is very real, and not unfounded. In Britain, activists dug up the grave of the mother of a researcher whose work involved guinea pigs. More recently, scientists in California have been the victims of home invasions.

"That has really shaken a lot of people here," says Sandgren.

Though nothing this extreme has happened in Madison—a few years back, a bus full of protestors visited several UW researchers at their homes, amplifying insults with a megaphone—the specifics don't matter. If your personal life was somehow infringed upon, would you soon forget it?

Another complicating—and oft overlooked—reason why researchers clam up, Sandgren says, is that it is nearly impossible not to quote someone out of context. Science was not built for sound bytes and glossy magazine articles. Scientists begin with a hypothesis and systematically test their way through it, learning as much from what they don't find as from what they do find. A single study can last decades, and attempts by outsiders to summarize findings are easily bungled. Many times, when animal rights activists and journalists alike attempt it, the results are simplistic and misleading.

DAVID ABBOTT IS ONE OF THE MANY researchers who didn't want to talk to us for this article. But he did, and he agrees his colleagues are fed up with being attacked, misrepresented, labeled as monsters. They didn't go into the sciences

to be public speakers or debaters. They never wanted to become public relations experts, to learn to speak in slick, ready-to-print speech. They didn't expect to be vilified for taking tax dollars and doing what the public mandated they do. They had questions, and they wanted to methodically dig up the answers they hoped would further the human cause.

Best known for his work on a serious illness called polycystic ovary syndrome, Abbott is one of Rick Marolt's documented examples, the one whose work has included daily injections of testosterone to the fetuses of pregnant monkeys. His office is stereotypically closet-sized and cluttered, though his window is generously proportioned. The sun shines brightly upon a photo atop his computer framing two smiling teenaged boys, and his voice betrays a nervous flutter as he speaks. There is a lot at stake here.

"We're not the most come-hither people because you have to take that deep breath, as I am talking to you, and go, 'OK, I'm gonna do this,'" Abbott says. "Because it needs to be done."

As Abbott begins to detail his work, its origins and its implications, the tremble in his voice evaporates. He is animated and proud, excited about the pioneering research he and his collaborators have accomplished. His work was just included in a 2008 textbook on PCOS, the implications of his research specifically lauded in the foreword.

Nobody knows where PCOS comes from, but its effects are debilitating: diabetes, obesity, acne, excessive hair growth, depression, sleep apnea, risk of endometrial cancer. The so-called "old world primates"—in this case those from Asia—are ideal models for women's health issues because their reproductive endocrinology and physiology are very similar to those of human females. Monkeys, however, do not naturally develop PCOS as far as anyone can tell, so Abbott's work replicates many of the symptoms, works the problem backward. He and his colleagues agree that it is groundbreaking, important work with life-saving potential for human beings, and it is happening because of the UW monkeys. Antivivisectionists criticize him for studying not PCOS but its replicated symptoms.

"We take a known insult, and we mimic so much of what PCOS is by a controlled testosterone access just maybe fifteen to forty days during gestation, that's it, nothing else," says Abbott. "Now you look at the adult and you see ovarian androgen access. You see lack of cycles. You see ovaries that have too many follicles in them. You see insulin resistance. Abdominal obesity rather than overall obesity. You see impaired pancreas ability to cope with glucose. And you go, well, wait a minute, that's all come from this one insult. That's so close. It's not perfect, but that is so close."


David Abbott

"Yes, it does take its toll. Do we do this lightly? No way. Do we limit the numbers we do it to and the times we do it? You bet."

— David Abbott

When you home in on the specifics of Abbott's work, things like injections into monkeys in utero, you might feel unsettled—but that doesn't mean you understand it, or that it's wrong. Like most researchers, Abbott broaches the argument from a utilitarian perspective. Does the good outweigh the bad?

"Yes, it's invasive … but we are trying to find answers that there's no other way to do this," says Abbott. "Yes, it does take its toll. Do we do this lightly? No way. Do we limit the numbers we do it to, and the times we do it? You bet. We need to find an answer. Because if we can find an answer that can save women from the risks of diabetes and therefore the shorter lifespan, obesity, cancers, yes we will. Because for us, the cost is worth it."

When Abbott starts to talk about his own personal beliefs, however, the lines begin to blur into some interesting shades of gray. He is just one person, and he is human after all, and he has traveled his own journey to arrive at a place that allows him to conduct invasive experiments on an animal he deeply respects.

"These are highly intelligent animals, but would I do this with chimpanzees? No. Because now for me, that's crossing the line," he says. "I think it's all personal. I think some people would probably cross the line at amoeba, and for others there may be no line at all."

So how do you know where to draw your own line? Would you kill a thousand monkeys if you knew it would save your child? Proponents of research say opponents wouldn't be so smug if they or their children were suffering. They criticize activists for speaking against animal testing by day, then going home to plague-free homes to pop ibuprofen or antibiotics by night. But for opponents of research, the question is condescending, a sweeping generalization that misses the mark entirely.

For many antivivisectionists, it's a question not of utilitarianism, but of ethics. There is no good or bad to be weighed when something is, plain and simple, wrong.

IT ALL STARTED IN THE FALL OF 2005, when her right foot kept turning inward. Over the next year Helene Dwyer suffered a steady loss of motor functions and a misdiagnosis before the verdict was finalized in September 2006: ALS, known more commonly as Lou Gehrig's disease.

It's a horrifying way to die, and shockingly quick in progression. For most patients, the mind remains crystalline intact, observing helplessly from the inside as the body systematically shuts down. Often, the last thing to fail is lung function, so Dwyer anticipates that sometime in the very near future, she will suffocate. She does not know if she will live long enough to read these words, but she wants to use what little time she's got to make as big a difference as she can. She wants to speak her truth.

Dwyer has been an animal rights proponent for two decades now, a well-known and widely respected figurehead. She is fundamentally opposed to medical research on animals, believing instead that greater (and more ethical) gains can come from epidemiology, the study of the human population. She plans to donate her brain to science when she dies. And

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yes, she's been asked many times if she would still oppose the research if she knew it would save her life. If it could ungnarl her hands, if it could lift her from her wheelchair of her own accord.

"It's like, if I knew they could cure me by experimenting on my neighbor and I could get away with it. I'd be tempted, wouldn't I? But it's not thinkable. And the reason we make laws for ourselves when we're not in that situation is so that we can keep ourselves from doing the unthinkable under duress of emotion."

Sixty-seven-year-old Dwyer is intimately familiar with the laws we make for ourselves, and has been arguing them since long before she knew her own convictions would be personally tested. She holds a Ph.D. in philosophy and spent twenty-four years teaching ethics at a UW college campus thirty miles north of Madison. Over the years she regularly posed the question: Where do you draw the line on the issue of animal rights? Like most educators, she has mastered the art of breaking down complex issues into bite-sized pieces. Analogies are often the easiest to swallow.

"I think it's like slavery," Dwyer says. "It was around for so long that people just ignored it. It was thinkable."

But that's different, an engaging student might retort. Monkeys aren't people.

"Well, you're not a man, you're a woman. What's the difference? What is the difference in the way that you're dividing the groups? Is it on the basis of the way they look? On the basis of the way they act? On their capabilities? It can't be that, because we wouldn't do this testing on a disabled child."

The truth is, we have done this testing on disabled children. The medical establishment, for all of its wondrous advances, has crossed the moral line in the past numerous times. At the Tuskegee Institute from 1932 to 1972, four hundred impoverished black men with syphilis were lied to about their conditions and treatment was withheld, solely so doctors could autopsy their bodies to learn the disease's inner workings. From the 1950s through the '70s, developmentally disabled children at New York's Willowbrook School were infected with hepatitis in the search for its vaccine. From 1845 to 1849, J. Marion Sims, the pioneer of gynecology, practiced surgical techniques on slave women without anesthesia. Prisoners, homosexuals and others on society's fringes throughout history have suffered greatly in the name of medical advancement.

This is why, for Dwyer and others like her, it's not unthinkable that what those in power deem OK today might become morally unacceptable tomorrow. That the tide they're swimming so hard against might finally turn.

AMY KERWIN KNOWS INTIMATELY THE deeply etched battle line between activists and researchers. In 2004, she began her long, lonely walk right down its middle. Before that, she'd spent five years inside the UW Harlow Primate Lab, first as a student and then as a full-time research specialist, studying the effects of fetal alcohol syndrome. There were about 450 rhesus monkeys inside the building at that time, and during her stint there she worked with nearly a hundred of them, observing and charting effects, performing blood draws and thinking—puzzling out ways she might improve conditions for the monkeys and therefore improve data collection. This is the line of thinking that would get her in trouble.

Kerwin and her coworkers worked hard to perfect a blood draw in less than two minutes, because they knew that was the brief time window they had before cortisol entered the monkey bloodstream and tainted results. They would start a stopwatch outside the door before entering the room with pole and net, extract the targeted monkey from its cage while its fellow primates screeched warning calls, force it into a restraint apparatus out in the hallway, pull out a leg, swab it with alcohol, inject the syringe, and draw the sample. Complete the task in under two minutes, and the stress-free blood sample was your prize. Kerwin saw that many of the monkeys were showing signs of stress, pacing and twirling, self-mutilating. She began to wonder if there was a better way.

She started coming in after hours and training the monkeys with a clicker, a simple handheld rectangular device that emits a loud clicking noise popular in dog training and available at most pet stores. It was time-consuming, but it worked. Before long, Kerwin was getting monkeys to calmly enter the transport cages.

Kerwin saw many other areas for improvement, too. In the end, she concluded that a lot of the veterinary treatment required came not from the experiments, but from the methods. Her notion wasn't all about making the monkeys more comfortable, though that was part of it. It was about controlling all the variables as tightly as possible, critical in scientific experiments. She wasn't opposed to the research, she was looking for ways to make it better for everyone: calmer monkeys, improved data collection, increased longevity in employees who struggled emotionally in these stressful situations. Kerwin meticulously gathered her findings and in 2005 submitted a thirty-eight-page report to the National Institutes of Health. It took her a year to write, but by that time she was no longer welcome inside the Harlow Primate Lab.

Her spiral into unpopularity was frighteningly swift. There was a day in 2004 she broke down after her favorite monkey died. Not long after, the American Society of Primatologists held a conference and when Kerwin mentioned to her supervisor that she was planning to go, the supervisor asked if she was actually going to the counter-conference being staged simultaneously by antivivisectionists.

"We were trained to strongly dislike animal rights activists, to think they were ignorant and violent, so I was incredibly offended when she said that," says Kerwin. "She said, 'Are you turning on me?'"

Kerwin was forbidden to come in after hours to train the monkeys, and that's when she resigned. That same year she started her own business, Primates, Incorporated, with a singular goal in mind: to create a refuge for lab monkeys to retire, a safe place research institutions and private drug-testing companies could send their monkeys to live out the rest of their days in a naturalistic setting.

These refuges are increasingly common across the U.S., but there is a waiting list, and animals are regularly turned away. Kerwin wants to provide one more resource to those on the wait list, and to encourage a culture of primate retirement in Wisconsin, where, according to a 2006 Animal Welfare Act report, 6,139 monkeys are currently living in labs throughout the state, mostly in Madison. The average age of a captive rhesus monkey is twenty-five, and Kerwin feels it's only fair that if they do their time, they retire in peace. She is working steadily to gather support, but it's not without resistance.

WHILE PRIMATE PHYSIOLOGIST JOE Kemnitz respects Amy Kerwin's efforts, he doesn't think she'll have much luck around here.

Kemnitz has been at the university for

more than thirty years and WNPRC's director since 1999. He says UW–Madison has the world's largest colony of geriatric rhesus monkeys, and his program receives considerable funding from the NIH for its work on aging, including caloric restriction, osteoporosis and glaucoma.

"We study the animals right up to the time that they would be near their natural death," Kemnitz says. "But I understand where [Kerwin is] coming from. I think it's an admirable thing to want to do."

The primate labs also receive federal funding for work on issues like Dr. Abbott's PCOS, and maternal fetal health in cases of diabetes and endometriosis. Scientists here are also working steadily toward a vaccine for AIDS. By injecting monkeys with the AIDS virus, researchers can study the pathogenesis of the disease at an earlier stage—you can't study the same in people who don't know they're infected early on—as well as evaluate its therapies. There is also the Parkinson's work, where a neurotoxin is injected into one carotid artery, producing Parkinson's on half of the brain. When the primate is killed for study, its brain presents a perfect model of control on one side and experiment on the other. And, of course, there's the stem cell research pioneered by James Thomson and his colleagues. Kemnitz estimates the WNPRC receives more than $50 million each year in federal funding for its work with monkeys.

"There's no compelling motivation to use whole animals except where there's no alternative," says Kemnitz. "And when we use whole animals, we apply the principle of the three R's: replacement, refinement and reduction. Use as few, use them as gently as possible, and then as soon as you can, replace them with another model. I would rather not use animals if I didn't have to. But because of the compelling motivation for humans, I do it. I look forward to the day—I think it's a long way off, but I think it will eventually come—when we don't need to do animal research."

RAY GREEK FEELS THAT TIME HAS come already, that it's long past, in fact. He is a board-certified anesthesiologist, science advisor to the National Antivivisection Society, and president of Americans for Medical Advancement, a 501(c)3 incorporated in Wisconsin, where he completed his residency and his AFMA co-founder wife graduated from veterinary school. They have both performed research on animals, and their position is that animals cannot predict human response, and therefore biomedical research on animals that claims to be predictive constitutes fraud.

"If you want to do research on monkeys to learn about monkeys, that's very viable," says Greek. "We don't have a scientific issue with that. A lot of people have ethical issues with it, but we don't."

Operating on an annual grant of about $100,000 from the National Antivivisection Society, Greek pens articles for scientific journals and magazines, and he's the author of several books on the subject, including *Sacred Cows and Golden Geese*, for which Dr. Jane Goodall wrote the foreword. AFMA asserts the animal model is both expensive and ineffective. Greek says penicillin is lethal to some guinea pigs and causes birth defects in rats. He says that dogs pumped with cigarette smoke don't get lung cancer. That Albert Sabin, father of the polio vaccine, himself said, "The work on prevention was long delayed by the erroneous conception of the nature of the human disease based on misleading experimental models of the disease in monkeys." That, according to a 2004 FDA report, ninety-two percent of drugs that pass animal tests fail when they go on to human trials. These are just a handful of examples.

"If you want to study animals for basic science, it's great. Knock yourself out," says Greek. "If you want to study animals to specifically try and find out what HIV does to a human body, you're scientifically on very shaky ground."

While this debate could go on and on, here on these pages and out there in the world, most research opponents simply want to have the dialogue publicly, because they feel shut out and lied to. Most research proponents are skeptical the debate can be fairly held; those who do dare speak out are worried above all that it will stop their research, even temporarily, and that medical advancements for humankind will come to a screeching halt—that people will die—while the world hashes things out.

David Abbott worries "that the enlightenment that we're having will be diminished. And we'll go through a darker period till we come out the other side again. So that's why I'm having this conversation and hoping that it will spark debate, but nothing more."

And what of the debate? What purpose does it serve? Is there any middle ground here between antivivisectionists and researchers? Any at all?

"Educating the public," answers proponent Eric Sandgren. "We *all* believe that if the public really understands what things are like, they will choose our side."

WE DO NOT SEE THE SICK MONKEYS ON our tour, the ones involved in studies on AIDS and Parkinson's. We see only the ones deemed safest to us, and, more importantly, at lowest risk to catch whatever it is we might be carrying. The monkeys we see, in room after room after room, look healthy and relaxed. We see no signs of stress, hear no warning calls.

The cages—twenty or thirty to a room and three feet square—are lined two-high in long rows, placed a body width or two apart. All the monkeys can see one another, and they manage to maintain a hierarchy despite little to no physical contact. Some of the animals have an entire cage to themselves, because they cannot be trusted with a companion, or because their food intake is being regulated as part of a specific study. Others are free to swing through an opening into an adjoining cage, typically with a buddy he or she has had since adolescence. Some are mother-baby combos. There are fiery monkeys and docile ones, crabby ones and curious ones. It's not unlike I'd imagine a roomful of people to be, a random sampling of humanity.

A mother scoops her baby to her belly and backs to the rear corner of her cage. I can feel her eyes on me, suspicious, as I drink in her tiny offspring. I can't stop staring at the exquisite details of his miniature hands, the chocolate fingers worrying the fine hair on his mother's arm. The similarities between her and me, between him and my own children, are breathtaking. My eyes travel slowly upward and lock with his mother's, and in a powerful instant the mirror between us shatters. She shakes her head in warning and opens her mouth wide, revealing incredibly large incisors. Animalistic fangs.

We enter another room, and the male rhesus closest to the door whirls around, pressing his impressive backside against the bars of his cage. I chuckle over having just been mooned by a monkey, and something secret and rising in me rejoices over his simple act of rebellion. But when I point this anarchy out to our guide, Buddy shakes his head. We have not been mooned. It is a sign of submission.

Maggie Ginsberg-Schutz is a contributing writer for *Madison Magazine*.