Primates in the frame

Primate researchers have long faced violent protests over their work. But in some countries, regulatory obstacles are taking a greater toll. **David Cyranoski** meets European scientists who feel that bureaucratic pressures are closing their labs.

Kevan Martin's monkey research project has been running for ten years. This year it hit a snag. Martin studies the brains of macaques to find out why higher-processing areas — the neocortex that accounts for 80% of the human brain — have been such an evolutionary success story. "If we can arrive at a general solution of the structure and function of the neocortex, it has enormous consequences," he says. The National Centre of Competence in Research, a Swiss government initiative, has reviewed and approved his work, supplying him with generous funding.

Martin's project at the Swiss Federal Institute of Technology Zurich has also been reviewed and approved every two or three years by the local animal experimentation committee. But this year the licence was delayed, forcing him to halt work in June. The eleven-member committee voted 5–4 against the licence, but the local chief veterinary surgeon overruled the decision, and the licence was granted in November. However, six members of the committee have now exercised their right under Swiss law to challenge the licence. The legal challenge has put Martin's work on hold indefinitely.

Klaus Peter Rippe is a philosopher at the University of Zurich who heads the local animal experimentation committee and is one of those protesting against Martin's licence. He attributes the extra attention on Martin's work, in part, to a change in the law. In December 2005, Switzerland reformed a law on animal welfare to protect the "dignity of creation" of animals. The vague wording has real effect,

says Rippe: "The legal framework changed; objections that were in the moral sphere are now in the legal sphere."

Martin thinks that the battle for his studies to resume will take at least another six months. "It's a relentlessly slow, drip-by-drip method of making life uncomfortable," he says. Martin has already seen one lab disappear, and fears that his will be next. Indeed, the number of primates used in research in Switzerland has dropped from 536 in 2000 to 408 in 2005.

The marmoset studies of Zurich colleague Joram Feldon, head of the behavioural biology laboratory, ended in April after questions were raised by the local committee. Feldon's study involved isolating marmosets from their mothers for 30–120 minutes repeatedly during the first four weeks of their lives to induce stress — a model for human depression that, Feldon says, cannot be matched by non-primate models.

The potential success of that model was what worried Rippe, whose local committee requested the ethical review of Feldon's work. "What would be the consequences if the experiment went well?" The worrisome answer: drug companies would start using more marmosets for research. So Rippe sought the advice of two national ethics committees, which formed a joint working group to evaluate Feldon's project. After weighing up the stress induced and the potential benefits to humans, the committees concluded that the severity level of the marmoset studies was ethically unacceptable.

Although the report does not have any legal jurisdiction over Feldon's licence, the

lead scientist on the project quit, and Feldon decided to focus on the experiments with rats and mice that make up the majority of his research. Martin, however, is not yet ready to give up: "I am the only person in Europe doing this research. If I'm gone, it's over," he says.

Martin and Feldon both point out that their lab's treatment of monkeys has not changed since their studies began some time ago. They found the unscientific nature of the ethics review particularly galling.

The working group comprised a biologist, an animal-welfare activist, a veterinary surgeon and three philosophers. In response to criticism that it did not include a primatologist, Rippe argued that they consulted four primatologists, including a member of Feldon's lab who was in charge of the marmosets. He also says that the 24-page report, which included lengthy discussions of ethical positions by Kant and other philosophers and contained no scientific citations, "is an ethical evaluation of primate research. The formal rules for ethical arguments differ from papers of the natural sciences."

Behind the scenes

Bombs, threats and arson perpetrated by animal-rights extremists grab the headlines, but behind-the-scenes manoeuvring may be taking a greater toll on primate research. Many researchers in European countries feel that they are being picked off one-by-one through regulatory mechanisms. Indeed, such indirect tactics may be more effective than direct campaigns.

Klaus-Peter Hoffmann, a cognitive neuroscientist who also works on vision, says that by forcing longer reviews and approval processes, or by getting them denied outright, opponents

"Objections that were in the moral sphere are now in the legal sphere."
— Klaus Peter Rippe

of animal research are succeeding in restricting primate research to a few centres such as the one in Tübingen. "No new laboratories are opening up in Germany," he says.

Hoffmann, who will retire in two years, has previously gone to court to protect his right to do research. But, he says, there is little motivation to replace researchers like himself. "I don't think the faculty is keen on primate research. The opposition is not only from the outside. Scientists also ask whether it is really necessary," Martin, too, sees primate research slowly being strangled by regulations: "If you're 35 years old and you have to stop for 18 months for approval, why would you bother?"

Primate research has always been the most controversial arena for the battle between animal-rights activists and researchers, and the need for it is growing. Ageing populations prompt more neurological studies into Alzheimer's and Parkinson's treatments, drug and vaccine developers say they require larger primate samples to improve preclinical trials, and stem-cell studies will need primates to bring the much-hyped research to the clinic. In 2002, some 52,000 primates were used for research in the United States and another 10,000 in the European Union.

Worrying trends

Researchers in Europe worry that their experiments will need to move overseas if, as they suspect, retiring researchers are not replaced, those coming from other countries are blocked and young researchers are discouraged from entering the field.

Alexander Thiele, a neuroscientist investigating vision at Newcastle University, UK, received a five-year €1.4-million (US\$1.8 million) fellowship from the Volkswagen Foundation to set up a laboratory in his native Germany. "You'd expect the university to be happy — they get a professor almost for free," Thiele says. But his plans to move to the Charité Medical School at Humboldt University in Berlin were dashed in July, when its ethics review committee voted 4–2 against accepting him.

Thiele attributes the vote partly to university politics and partly to pressure from animal-rights activists. Before the vote, critical stories, based on leaked confidential information, ran in the local papers, says Thiele. Other universities have also turned Thiele down; he's not too hopeful that he will return to Germany.

Meanwhile, in the United Kingdom, where protests against primate research have the longest, and most violent, history, researchers have seen a swelling of public support and legislative actions in response to the more extreme activities of animal campaigners. Simon Festing, director of the Research Defence Society, a group in favour of animal research, says that some of the more unsavoury actions of the animal activists are generating negative headlines for them. For example, activists dug up the remains of a member of a family that ran a guinea-pig farm, forcing it to close in August 2005. The public outrage was mostly directed against the activists.

In May this year, UK Prime Minister Tony Blair signed a petition in support of animal

research, which has to date been signed by more than 21,000 people. In a public statement, Blair noted that new powers for the police and courts would be used to counter the threat from animal-rights extremists.

Animal activists in the United Kingdom harass not only researchers, but also janitors, security guards or third parties who do business with animal researchers. They claimed victory, for example, in 2004, when the University of Cambridge scrapped plans for a large primate research facility. A BBC television documentary last month reported on a similar battle over the construction of an animal research laboratory at the University of Oxford. The documentary featured Oxford neurosurgeon Tipu Aziz, who experiments on Parkinson's disease in monkeys and performs related surgery on humans. He says that he felt the need to speak out when construction at Oxford was halted last year. "It is my strong belief that the Cambridge site was not built because scientists didn't educate people about what they're doing," says Aziz.

A fighting chance

But not all primate researchers are as determined as Aziz. This summer, Dario Ringach, a neuroscientist at the University of California-Los Angeles, announced that he would stop doing research on monkeys after the Animal Liberation Front (ALF) tried, unsuccessfully, to detonate a bomb on his colleague's doorstep. The ALF victory may prove costly in the long run. In its wake, support for a pending Animal Enterprise Terrorism Act grew. The act, which will make it easier for law enforcement to crack down on economic harassment and impose greater penalties, was signed by US President George W. Bush at the end of November.

Frankie Trull, president of the National Association for Biomedical Research, a non-profit organization that supports the use of animals in research, says that the past four or five years have seen an increase in extremist activity. "I hear many stories of researchers having difficulty in finding postdocs," she says. However, the new law "was a big victory for biomedical research".

The battle is set to continue. Neither side looks ready to give up over the Oxford University facility, which is again under construction. This week, an independent UK review of the scientific case for primate research announced its support for such work, but suggested more can be done to improve animal welfare. Meanwhile, as Feldon watches his colleagues come under fire, he regrets that he did not fight to keep his experiment running. "Giving up might have been a mistake," he says.

David Cyranoski is *Nature's* Asian correspondent.

"It's a relentlessly slow, drip-by-drip method of making life uncomfortable."
— Kevan Martin

ILLUSTRATION: D. ALLISON