

Oxford University and animal experimentation: **a catalogue of shame**



Oxford University is currently building an £18 million animal research facility. This booklet documents some of the animal experiments that have already been carried out at this institution, in the name of science.



www.animalaid.org.uk

I could not kill or hurt any living creature needlessly, nor destroy any beautiful thing.

John Ruskin, Professor of Literature, 1885, who resigned his position at Oxford the day after vivisection was introduced.

Historical background

Oxford University is the oldest English-speaking institution of its kind in the world, dating back to 1096. The first of its colleges, Balliol and Merton, were established between 1249 and 1264. The University soon earned itself a reputation for excellence as a seat of learning, as well as becoming a centre for lively controversy, especially on religious and political issues. It was not until the late 19th century, however, that science and medicine were added to the curriculum.

Oxford University is also noteworthy in the field of animal experimentation. It was where Sir Howard Florey, in 1940, experimentally infected a group of mice with a lethal dose of streptococci bacteria and subsequently treated them with penicillin, leading to the widespread use of this antibiotic during World War II. It was, of course, fortuitous that Florey had used mice to test penicillin and not guinea pigs, for whom it is lethal. Had he used guinea pigs, it would have killed them, and the antibiotic might well have been completely discarded.

Whilst spawning many pro-vivisectionists, Oxford has also produced outspoken critics of animal-based research. Sir George Pickering, who was one of the University's most eminent medical professors, was quoted in the British Medical Journal in 1964 as saying: 'The idea, as I understand it, is that fundamental truths are revealed in laboratory experiments on lower animals and are then applied to the problem of a sick patient. Having myself been trained as a physiologist I feel in a way competent to assess such a claim. It is plain nonsense.'

Judging by the University's track record, it would appear that Professor Pickering's words of wisdom have been largely ignored or forgotten by subsequent generations of students and tutors alike. For example, Oxford researchers have been quick to resort to the animal model in trying to tackle complex human problems related to learning and cognition. John Stein, lecturer in neurophysiology,

New Scientist, March 28, 1998



The University is currently building a new biomedical research centre, at an estimated cost of £18 million. The stated objective is to seek answers to the problems of heart disease, stroke, cancer and diabetes. 'Animal models' of these and other human diseases will be used – a methodology that is now increasingly regarded as outdated, even within the research community. Sadly, those who planned the new research facility failed to heed the words of Vernon Bogdanor, a former Professor of Government at Oxford who stated: 'The true enemy of excellence is conservatism, an unthinking adherence to the shibboleths of the past.'

A damning confidential report on the treatment of animals at Oxford University labs was leaked in March 1998 to Animal Aid and released to the media. The internal document, marked 'strictly confidential' revealed that some researchers lacked the basic surgical competence to stitch up wounds they had deliberately inflicted during experiments.

The University's ferret colony had also suffered severe welfare problems. According to the leaked document: 'During the last year there have been continuing health problems in the single colony of ferrets kept within the University. Following difficulties with UK supplies, pregnant animals are regularly imported from the USA to provide a source of day-old animals.' New Scientist magazine ran an editorial and full-page news article on the scandal, which it headlined 'An open wound'.

What follows are examples of animal research carried out over recent years at Oxford University. One experiment dates back nearly 25 years, but most are more current. Whatever their vintage, they all betray a commitment to a methodology that is scientifically invalid and devoid of compassion.

Experiment 1.

Twenty-four adult male mongrel dogs were used in an experiment to test the toxic effects of Cyclosporin (an anti-rejection drug) on the kidney. All of the dogs were anaesthetised and had both of their kidneys removed. The kidneys were kept without a blood supply for 60 minutes, so as to deliberately damage them, before reconnecting the blood supply. Some kidneys suffered more severe damage than others. The dogs were divided into groups. Some were grafted with their own kidneys, while others were given the kidneys of other dogs; some of the dogs received the anti-rejection drug, while others did not. The dogs were then allowed to recover from their surgery.

Two dogs died from kidney failure on the third and fourth post-transplant days, while three more died a few days later. The researchers concluded that cyclosporin was not toxic to the kidneys at normal dose levels in dogs. They also noted that similar results to these had been obtained by other workers using rats and rabbits. They added: 'If Cyclosporin A is responsible for impaired renal function in the human, perhaps there is a species difference between dog and man.'

Effect of Cyclosporin A upon the function of ischemically damaged renal autografts in the dog.

Transplantation 1980 Vol. 30, No. 3, 228-230. Homan W, French M, Morris P.
Nuffield Department of Surgery, John Radcliffe Hospital, Headington, Oxford.
Funding: Medical Research Council (UK) and Wellcome Trust

Comment:

The drug being tested causes liver, kidney and nerve damage in human patients but not in cats and dogs - as noted by the expert testimony below.

'In human patients, cyclosporin nephrotoxicity [kidney damage] is its major limiting factor as an immunosuppressive drug, although cyclosporin is generally not nephrotoxic in the dog and cat. Hepatotoxicity [liver damage] and neurotoxicity [nerve damage] also occur in human patients, but have not been a problem in the dog and cat.'

Ref. Gregory C, Waltham
Focus 1995, Vol. 5, No.1.



Experiment 2.

Twenty adult beagle dogs were used in an experiment to compare the effects of two intravenous anaesthetics on the heart, in conjunction with deliberate interference to its blood supply. All of the dogs were anaesthetised, placed on their sides, and had their hearts exposed by the surgical removal of two ribs. Blood vessels leading to and supplying the heart were closed off for a period of 10 minutes.

The results were taken from only 14 of the dogs, as six of the animals died during the actual experiment – most of them from heart attacks. No mention was made in the paper of the fate of the remaining 14 dogs. At the end of the experiment, the researchers concluded that there was no significant difference between the two anaesthetic drugs used with respect to recovery of heart function. However, they did suggest that, because a relatively small number of animals was used, the experimental findings could not be regarded as being very conclusive.



Comment:

It is difficult to see how the results of an experiment involving healthy dog hearts, which have been artificially manipulated, can have any meaningful application to diseased dogs, much less to human patients. Researchers themselves do not agree on which 'animal model' most closely resembles the human heart. Some consider pigs more relevant models than dogs because pigs' hearts have a poorer collateral blood supply than dogs.

A comparison of the effects of fentanyl and propofol on left ventricular contractility during myocardial stunning.

Acta Anaesthesiol Scand 1998; Vol. 42: 23-31.

Ross S, Munoz H, Piriou V, Ryder A, Foex P. The Nuffield Department of Anaesthetics, The Radcliffe Infirmary, University of Oxford.

Funding: Zeneca Pharmaceuticals, and Medical Research Council.



Experiment 3.

Ten five week old kittens had the eyelids of one eye sewn together and kept closed for 10 days. In five of the kittens, the sewn eye was then opened, while the healthy eye was surgically manipulated to make it squint. Fourteen days later, the kittens were anaesthetised and had part of their skulls removed in order to expose the brain area that is responsible for vision. Behavioural and optical imaging experiments were subsequently performed. There is no mention in the article as to whether the kittens were allowed to recover from the experiment or whether they were euthanased.

The authors do not provide any clear conclusion. Instead, they explain why their study appears to contradict that of other researchers, and also why the results could differ when the experiment is performed in monkeys.

Correlated binocular activity guides recovery from monocular deprivation.
Nature 2002; Vol. 416: 430-433.

Kind P, Mitchell D, Ahmed B, Blakemore C, Bonhoeffer T, Sengpiel F.
University laboratory of physiology, Parks Road, Oxford.

Funding: Wellcome Trust, Medical Research Council (UK), Max-Planck-Gesellschaft, Canadian Institutes of Health Research, Oxford McDonnell Centre for Cognitive Neuroscience.



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Comment:

This is yet another minor variation on a category of research called 'monocular deprivation', often used to study the human condition known as amblyopia ('lazy eye'). Cats were used in this experiment even though their eyes lack a macula and fovea – two areas of critical importance in the human eye. A Harvard trained pediatric ophthalmologist commented on this type of research in 1990 in an affidavit (see below) presented in an Israeli court of law. This document, together with several other sworn statements made by eye specialists, all concurred on the lack of applicability of these experiments to the human condition.

'I do not believe that straining to find out new ways of depriving cats of visual input has added or will add to our knowledge about the connections of the eye to the visual cortex in cats... even if it adds a little to our knowledge of visual connections in cats, the applicability of this knowledge to human amblyopia is essentially nil. Clinical research, done with children who are actually suffering from amblyopia would seem to be the only way to find out more about how to treat this important condition which affects about two percent of the population.'

(Affidavit by Robert Petersen MD, The Children's Hospital, Boston USA)

Experiment 4.

Sixty-two ferrets, of whom 39 were albino, were used in this study. Their ages ranged from ten weeks to 24 months. Most of the animals were purchased from four commercial UK breeding colonies. Eight of the ferrets were anaesthetised and had a radioactive compound injected directly into their left eye. In conjunction with general anaesthesia, a neuromuscular blocking agent was used - the use of such drugs giving cause for special concern, because the paralysis they produce may mask signs of pain. Other animals were anaesthetised and surgical slits made in the skull through which to insert several electrodes into the brain. In another six albino and six normal ferrets, a fluorescent compound was injected directly into the brain. Again, these procedures were made under a combination of anaesthesia and paralysis. The skull wounds were covered and the ferrets allowed to recover from the anaesthetic. Seven more albino animals were anaesthetised and received deep brain injections. These animals were allowed to recover and then euthanased 2-7 days later.

The authors conclude that 'the results presented here on anaesthetised, paralysed pigmented ferrets are similar to previous studies'.

Relay of visual information to the lateral geniculate nucleus and the visual cortex in albino ferrets.

The Journal of Comparative Neurology 2003, vol 461: 217-235.

Akerman J, Tolhurst D, Morgan J, Baker G, Thompson I.

University laboratory of physiology, Oxford.

Funding: Medical Research Council (UK), Wellcome Trust, McDonnell-Pew Foundation.

University laboratories criticised Report slams animal care

CAMPAIGNERS have hit out at the care of laboratory animals at Oxford University after a leaked report into their welfare.

The university report, obtained by the *Oxford Mail*, reveals animals' wounds re-opened surgery due to poor stitching, and imported animals became sick.

Pregnant ferrets imported from America, because of the need for day-old animals, suffered a series of infections and...

according to the report.

Action

By CHRIS DIGNAN
said the university, although anti-vivisection group Animal Aid was not convinced. Its director Andrew Tyler said: "The whole thing is indicative of very serious lapses in judgement in welfare and competence."

'Incompetence' blast as researchers are retrained OXFORD EXPERTS GO BACK TO CLASS

TOP researchers at Oxford University are going back to class after a leaked document sparked accusations of incompetence.

They are being retrained in stitching after it was found that animals which were sewn up after experiments suffered reopened wounds.

The confidential and damning report by the supervisor of veterinary services at the university was leaked to welfare group Animal Aid, which has demanded an immediate inquiry into the findings by the Home Office.

Director of Animal Aid Andrew Tyler said...

IAN BIRCHILL knew there would be some perks of the job when he became mayor of Didcot, but this does not look like one of them.

The poor weather here in Didcot is not helping matters as the town celebrates the opening of a new playground.

Scorn is being heaped on the town's new park as the wind whips up a storm of rain.

Swings, roundabouts and climbing frames are being drenched.

...

KATE SPARK
News Reporter

...flicted by a number of conditions including conjunctivitis, epistaxis, sunburn and mastitis.

Mr Tyler said: "I am also concerned about the treatment of the ferrets. Importing these animals at least 3,000 miles while pregnant is extremely stressful to them and a very callous thing to do."

The report blames the ferret's problems on E-coli which has been found in the water because the animals were imported from America.

Comment:

The information presented here represents the discovery of scientific data for its own sake - a crumb amongst the millions of other crumbs of basic research that are discoverable, but totally inapplicable to human or animal health.



Experiment 5.

Six groups of 12-week old female rats were used to test a new compound for treating radiation burns. All of the rats were anaesthetised and received a burst of radiation to the underside of the tongue, resulting in mouth ulcers. The rats were subsequently allowed to recover from the anaesthetic. One subgroup received no treatment whatsoever, while the remaining five received various combinations of the treatment compound. No animals died before the end of the experiment, but no mention is made of the fate of the rats thereafter. The authors concluded that more experiments should be carried out, in which the rats would receive repeated doses of radiation, rather than a single burst.

Modification of radiation-induced acute oral mucositis in the rat

International Journal of Radiation Biology 2004,
vol. 80(2): 177-182.
Rezvani M, Ross G.
Research Institute, University of Oxford



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Comment:

The 'rat model' used in the above experiment is simply a repetition of an earlier mouse model used to demonstrate the same principle. Instead of studying, and deliberately harming, mice and rats, scientists would do much better focusing on the many human cases of radiation-induced mucositis (inflammation of the lining of the mouth and digestive system produced as a result of radiotherapy treatment). They could do so by beginning with human cell culture studies, and eventually progressing to actual patients.



Experiment 6.

Researchers at the University of Oxford compared three monkeys with artificially produced brain damage, with a human subject whose brain was damaged in an accident. The monkeys were three adult rhesus macaques. Two had had parts of their brains removed 10 years previously, when they were five years old. The third monkey, already aged 14 years, was operated on recently and given six months to recover before being tested. The human subject was 48 years old, but suffered brain damage when he was eight years old. The monkeys and the human were subjected to tests that measured reaction time to a visual stimulus. At the end of the tests, the researchers concluded that the human subject never managed to respond as fast as the fastest monkey. They also could not determine why one monkey behaved differently from the others.



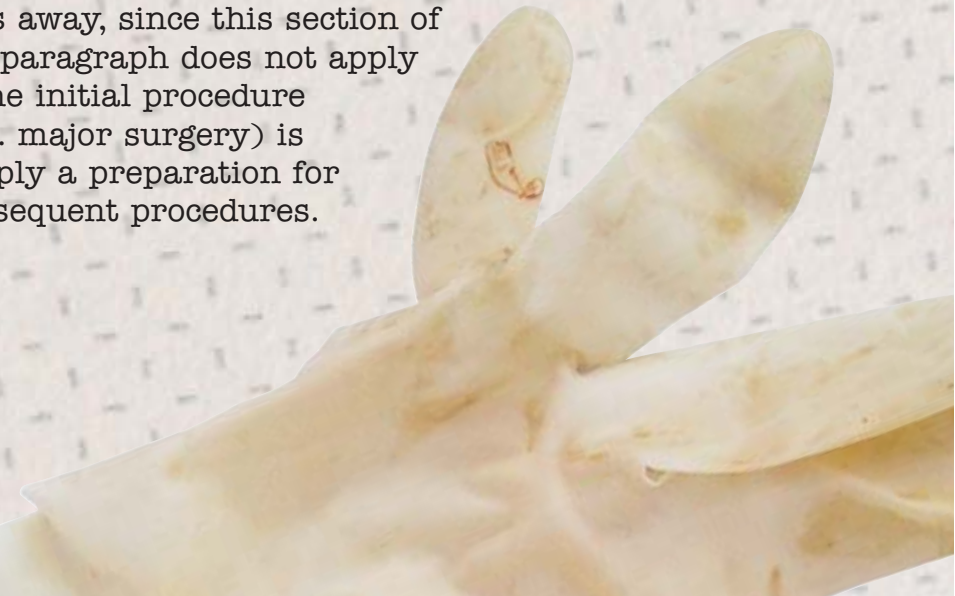
Chromatic priming in hemianopic visual fields.

A Cowey, P Stoerig, I Hodinott-Hill. *Experimental Brain Research* 2003; 152:95-105.

Funding: Medical Research Council.

Comment:

The long-term experimental use and incarceration of these monkeys must expose them to extreme distress and suffering. This is another clear example where the law offers no protection. Paragraph 14 of the Animals (Scientific Procedures) Act of 1986 states that, where an experimental animal has been subjected to regulated procedures, or has been given a general anaesthetic and allowed to recover consciousness, 'it shall not be used for any further regulated procedures'. However, this apparent protection falls away, since this section of the paragraph does not apply if the initial procedure (e.g. major surgery) is simply a preparation for subsequent procedures.

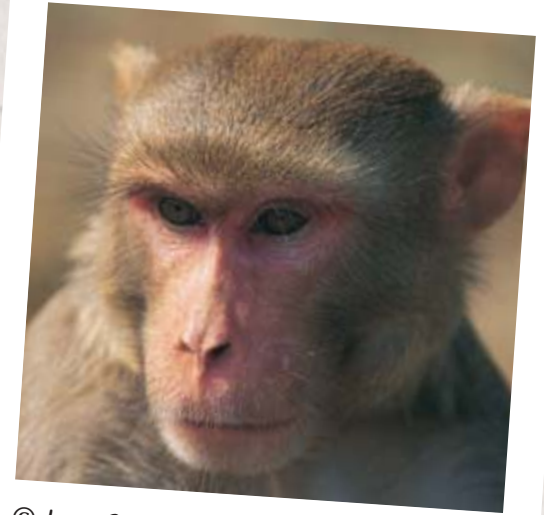


Experiment 7:

Two macaque monkeys were used to mimic Parkinson's disease in humans. The experiment involved injecting a chemical, which affects nerve transmission, directly into their brains. They were also injected intravenously with a second chemical, called MPTP, which produced Parkinson-like tremors. The researchers noted, from previous experiments performed by other scientists, that greater brain damage results in more severe behavioural symptoms. Depending on the dose of MPTP, the monkeys experienced varying degrees of incapacity, tremors, rigidity and loss of voluntary body movements. Parkinson's disease in humans is caused by poorly understood death of dopamine producing cells in the brain. It has absolutely nothing to do with MPTP. In addition, Parkinson's disease does not occur naturally in monkeys. In the final stage of this experiment, both monkeys were given a large dose of MPTP, which essentially froze them in their tracks. The animals were allowed to suffer the debilitating effects of this drug for ten days, during which time they required intensive nursing to keep them alive. At various stages during the experiment, the monkeys received a drug (orally, or by injection into the brain) to reverse, or reduce, the experimentally-induced symptoms. The aim of the experiment was to examine the effect of injecting a chemical directly into the part of the brain whose malfunction is associated with Parkinson's disease symptoms. At the end of the experiment, both animals were killed.

Comment:

One must question the very reason for this experiment. A fundamental difference between Parkinson's disease in humans and 'monkey models' of the disease, is that, while humans get progressively worse, monkeys gradually recover from the condition.



© Iain Green

Reversal of akinesia in experimental parkinsonism by GABA antagonist microinjections in the pedunclopontine nucleus.

Nandi D, Aziz T, Giladi N, Winter J, Stein J. *Brain* 2002; 125: 2418-2430.

University laboratory of physiology, Oxford University.

Funding: Medical Research Council (UK) and Norman Collisson Foundation.

Experiment 8.

Two adult male rhesus monkeys were trained to fixate their vision on a small point for several seconds. Once they had learned the task, they were anaesthetised and had a metal coil implanted near the eye, which was wired up to record eye movements. They were also fitted with a head restraint and recording chamber over a part of the brain that had been exposed to allow recording of brain cell activity. During the experiment, the monkeys were positioned in a primate chair with their heads forcibly restrained. They were required to fixate their vision on different patterns. In addition, the monkeys had to press and release a lever within a very short period of time in exchange for water reward. Giving the monkeys small amounts of water as a 'reward' would suggest that they were deprived of water before the experiment. Brain cell activity was then recorded. The authors concluded that different brain cells respond to different patterns seen by the monkeys. No mention was made of what was done with the monkeys after the termination of the experiment.

Pattern motion is present in V1 of awake but not anaesthetised monkeys.

European Journal of Neuroscience, 2004, Vol. 19: 1055-1066.

Guo K, Benson P, Blakemore C.

University laboratory of physiology, University of Oxford.

Funding: Medical Research Council (UK), Oxford MRC centre in brain and behaviour, the Oxford McDonnell-Pew centre for cognitive neuroscience, the US Air Force Office of scientific research, European office of aerospace research and development.



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Comment:

Scientists and non-scientists alike agree that research funds are a scarce resource. It is therefore a travesty that this sort of activity should be funded at a time when so many human patients are not receiving the medical attention that they need.

Although the specific purpose of this research is not mentioned in the paper, it is both noteworthy and disturbing to see that military bodies participated in its funding.

Conclusion:

The advancement of knowledge for its own sake does not justify inflicting pain and suffering on sentient creatures. Nor does the law provide any meaningful protection for these laboratory animals. Animal experimentation is not about science or helping human beings through meaningful, rational research. It is about the search for grants, academic prestige and career development.

At a time when the scientific validity of animal experimentation is increasingly questioned from within the research community itself, it is time for thinking scientists to publicly challenge the relevance of such experiments.

WHAT YOU CAN DO

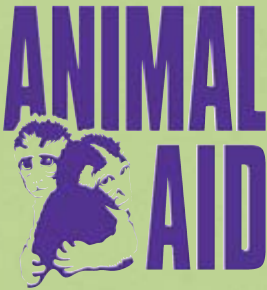
- Write to the University Vice Chancellor, expressing your dismay at the misappropriation of precious research resources by building an animal facility instead of investing in human based research:

Sir Colin Lucas - Vice Chancellor

University of Oxford, Wellington Square, Oxford OX1 2JD

- Write to the editor of your local newspaper in a similar vein.
- Order more copies of this booklet if you are able to reach local scientists, GPs , dentists, veterinary surgeons, university tutors – we need those involved in the scientific and medical professions to support our campaign.

For more information and to join Animal Aid, please contact our office or visit our website.



Animal Aid exposes and campaigns peacefully against all animal abuse, and promotes a cruelty-free lifestyle.

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