Experience working with RN Lemon

Report by Cris Iles for Dr Jane Goodall, December 2016

Video covering my work:
https://www.youtube.com/watch?v=nvFTS_tEonE

Joining the Institute of Neurology
I joined the Institute of Neurology on June 1st 1995 as a Laboratory Animal Technician, a role I was already working in at Charing Cross & Westminster Hospital Medical School. The Denny Brown laboratories at the top floor of the ION housed cats, rats, mice, gerbils and primates. There was another smaller site which was part of the ION which used primarily gerbils.

After working for a few weeks I was asked to do some of the maintenance/care work with the primates on Lemon's licence. The use of the term care is inappropriate as the needs we were asked to meet were purely life maintaining and did not relate to wellbeing.

Before seeing the Pig Tailed Macaque I was called into the lab superintendent's office where he warned me that I might be shocked. My work until then had included killing rodents, working with dogs with surgical pacemakers and working with rats with brain probes.

The Pig Tailed Macaque had a plate surgically inserted into her head permanently, screwed into her skull, securing a chamber which I was told when open exposed the surface of the brain. She repeatedly made defensive aggressive movements with wide eyes and open jaws with bared teeth. This was constant, with repeated baring of the teeth. Even in captivity (e.g. zoos) this is rare and unusual behaviour.

A primate described as a companion animal was on the same licence. She played no companionship role as she was a different species and the two were unable to communicate. They would not normally meet in the wild. She was exhibiting more extreme behaviour, pacing her tiny cage repeatedly in a small circuit, swinging the head at the same point in each circuit. This continued even when staff were in the room and therefore providing a source of attention.
On the official Licence Application for this project Lemon claimed: "…none of our monkeys displays the stereotypic behaviour of bored captive monkeys."

The cage was small and the pacing was about the same sort of range of movement as walking around a pole. She had extreme soreness on her legs and lower torso which was actually noted as looking as if she had been dyed. This was the result of injuries caused by fighting before arrival at ION. Given that this was noted in June and she had been singly housed at the ION since 15th February (and possibly before at the supplier), this shows the severity of the injuries.

Lack of space was extreme, with a cage so small that the longest side was barely longer than the macaque could reach. In other words she could almost touch one end and reach the other end. Furniture and stimulation was close to zero, there was a small platform and a swing.
Privacy is crucially important to these macaques as they need to find somewhere where they can avoid being watched. The cage was wire on all sides with no opaque surfaces other than the floor. Companionship is also important for these social animals, but she had none.

Crab Eating Macaques
A similar standard of neglect was found there. The dimensions of the cages were recorded as 103cm by 70cm (base with a height of 93.5cm). Again there was no enrichment and the cages were bare and without separate compartments. It was clear the intention was to contain them and make them available, and no more.

Legislative breaches
Many of the conditions were breaches of the legislation:

- A primate was kept in a cage ready for an experiment, and staff were asked to keep it quiet as an inspector was coming and the cage was known to be too small for him.

- COP 2.3 clearly states that accommodation should enable "at least a minimum of freedom of movement, food, water and care, appropriate to its health and well-being." Freedom to move was minimal and unsuitable for the species.

- COP2.10 states that 'An animal house should be designed, sited and constructed to provide a suitable environment, including any special requirement for exercise or social contact for the species to be housed, and should incorporate facilities sufficient for the activities carried out within it." There was no provision for exercise approaching anything normal, and no social contact.

- COP 3.2 stated that "The aim is to maintain animals in good health and physical condition; behaving in a manner normal for the species and strain and with a reasonably full expression of their behavioural repertoire…" Extreme stereotypic behaviour was routine in one animal and repeated defensive gestures were standard in another.

- COP 3.21: "Size, shape and fittings of pens and cages should be designed to meet he physiological and behavioural needs of the animals. The shape of the cage and the furniture provided may be as important to the animal as the overall size of the cage." Cage design did not appear to even consider animal needs.

- COP 3.28: "Bedding and nesting material should be provided, unless it is clearly inappropriate. It should be comfortable for the particular species…" There was no bedding provided.

- COP 3.38: "All animals must be allowed to exercise….For larger species, special arrangements will usually be required for social contact as well as exercise." Ther was no exercise provision at all.

- COP 3.43 "In considering the provision of a suitable environment for such a widely diverse group [Primates], it is best to work from a thorough understanding of the biological, psychological and behavioural needs of the individual species. Primates have high intelligence, most have arboreal habits and all need complex, stimulating environments." The environment for all primates was as basic as it could be.

- COP 3.45 "Housing…should provide adequate space, complexity (eg varied diets, cage furniture) and opportunities for social interaction." There was limited space an no complexity.

- COP 3.46 “The use of space by primates means that cage volume is important. Virtually all show a vertical flight reaction. Cage height should permit the animals to stand erect, jup and climb, and to sit on a perch without head or tail touching the cage…No monkey should be held in a cage which has any dimension shorter than twice its own crown/rump length. Cages should have adequate floor space for the more terrestrial species.” Long term housing was in cages with no height provision.

- COP 3.47: “Most species are highly sociable and benefit from being housed with companions and should be so housed that they have the opportunity for social interaction.” There was no opportunity for interaction with any companion animals in the case of the primates held for the long term.

- COP 3.48: “Single housing should be avoided wherever possible but care should be taken to ensure that animals which are housed together are compatible.” Single housing was standard.

- COP 3.59: “Any animal housed individually should be assessed periodically to re-evaluate its social and environmental needs, including whether it has enough space for its size. Special arrangements should be agreed with the Inspector for animals over 9kg.” The single-housed animals were extremely unwell.

Science

Lemon’s work was based on the effect of conditions (primarily stroke) or areas of the brain linked with motor control (specifically hand movement). It was essentially a mapping exercise. This is an area which has been badly documented in humans, primarily because of experiments on Macaques:

“To interpret the activity of living human brains, their neuroanatomy must be known in detail. New techniques to do so are urgently needed, since most of the methods now used on monkeys cannot be used on humans.” {Crick & Jones, Nature, Vol 361,pp109-110).

This is clearly an intention to create a publication quickly, rather than a piece of valuable research. In prior research, Lemon has used human volunteers and human brains which are methods that produce human-relevant results, with potential impact for effective methods of treatment. Using human methods would have taken more care, time and effort and - unlike the animal method - would have produced useful results that are relevant to human patients.

Extremity of the licence

- The licence covered work using 55 macaques, 25 rats, 4 cats and 6 squirrel monkeys
- An exemption was applied for to avoid using a designated supplier and to use a broker, which implies the use of a wild caught animal.
- The reuse of a squirrel monkey would have been illegal before 1986.
- The Pig Tailed macaque was subject to extreme brain surgery and subject to tests following this. This was repeated using the other side of her brain. This is an extremely invasive project with long term care requirements for the animals.

This licence was one which should have been monitored closely before and after approval. It was approved in three days and the standards were not enforced during it.

My statement

"Standards of care have been extremely low whether considered from the point of view of the law, the welfare of the animals involved or the public's widely held views about how animals should be treated. The housing the animals were given was just intended to contain them and almost no thought had been given to welfare. There seemed to be an intention to do the absolute minimum for the animals - and all of this was for an experiment that did not contribute anything to human medical knowledge, or anything towards the advancement of human treatments and cures. [1-6]

My experience shows that in the most prestigious of laboratories with the most qualified of staff, even the most controversial of experiments are subject to a lack of meaningful legislation. It was impossible for me not to be shocked by the disregard for the letter and spirit of the regulatory framework which I encountered as standard. The only reason for animal experimentation to exist in its current regulatory vacuum is to enable it to continue as a haphazard and indefensible industry, offering nothing to human medical advancement whilst also avoiding commonly held standards of decency in respect of the care of animals. I applaud and support Dr Jane Goodall's vital call for Prof. Lemon to agree to take part in a thorough public scientific and medical evaluation that all of us can witness, overseen by independent experts from the relevant fields of scientific expertise. This is medical hearing is long overdue and I urge all MPS to enthusiastically support it by signing Parliamentary EDM 400".

References

1. *BMJ* 2014; 348: g 3719 *How Predictive and Productive is Animal Research?*
2. Ray Greek and Lawrence A Hansen; *The Development of Deep Brain Stimulation for Movement Disorders* J Clinic Res Bioeth 2012, 3:137. doi: 10.4172/2155-9627.1000137
3. Open Letter to VERO by neurosurgeon Marius Maxwell MBBChir DPhil (MD PhD).
4. Lumley CE, Walker S Lancaster, Quay, editors 1990; *Clinical Toxicity – Could it have been predicted*? Post-marketing experience; pp. 57–67 in Heywood R: Animal Toxicity Studies: Their Relevance for Man.
5. Greek, Ray and Niall Shanks' *Complex systems, evolution, and animal models* Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences. 2011 Dec;42(4):542-4 doi:10.1016/j.shpsc.2011.07.001 PMID: 22035727.
6. Greek, R and LA Hansen. (2013) *Questions regarding the predictive value of one evolved complex adaptive system for a second: Exemplified by the SOD1 mouse.* Progress in Biophysics and Molecular Biology.