

Psychological Issues in the Educational Use of Animal Experimentation

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THE debate over the rights or wrongs of the harmful use of animals in education has focused largely on animal rights and welfare as set against the perceived educational need for, and validity of, such experiments. The word 'harmful' is used in this article to mean involving deliberate harm (including killing) to the animals before, during or after the experiments as opposed to, for example, the use of cadavers or tissue obtained from animals which have died naturally or been euthanased for humane reasons.

A number of researchers and commentators are now addressing the ways in which *students* are affected psychologically by being required to participate in such experiments, and the implications for the life sciences.

I will attempt to show here, with reference to 'filtering', personality types, conformity, empathic distress, socialisation processes, desensitisation, ethical conflict and stress-induced academic detriment, how the status quo in biological education and practice is maintained through educational and scientific cultures, and the possible consequent constraints on scientific progress.

This article does not pretend to offer an unbiased view, and my own stance will be clear to readers. However, this stance is supported by a large and increasing number of scientists, educators and other professionals, so I will make no apologies for this. Treat it, if you like, as one aspect of a debate.

The filter effect

General attitudes towards animals in the industrialised world have come a long way since Descartes likened them to machines whose cries meant nothing more than the ticking of a clock (Orlans, 1993). However, harmful animal experimentation can be regarded as a 'rite of passage' which filters out many of the more sensitive individuals from the life sciences and socialises the others into accepting the 'need' for such experiments (Capaldo, 2001 p.5). Filtering is effected by a variety of means.

Pressure to conform

In addition to peer pressure, as observed in schoolchildren (e.g. Solot and Arluke, 1997), students objecting to the experiments may face substantial coercion from educators. This can take the form of intense questioning and challenging of students' motives and their stances on other animal-related issues. It can involve physical or psychological marginalisation, such as requiring objecting students to work in a corridor (*ibid.*), or telling them that they are the only ones to have ever objected (Pedersen, 2000 p.61). Educators may advise students, sometimes in a threatening or humiliating manner, to abandon their ambitions to study biology or medicine (*ibid.* pp.61-3 and personal experience). Fear of ridicule and/or loss of grades is a significant factor in ensuring compliance with educators' demands.

The unique pressures on OU students

Some people may be surprised to learn that such situations arise from the Open University's biology curricula. Although Open University biology students are usually given their 'freshly-killed biological material' pre-prepared (perhaps analogous to

the shrink-wrapped meat in supermarkets which does not remind people too much of its source), the pressure to use it can be, in one important way, much greater than for students at school, veterinary or medical college or conventional universities. Whereas at the latter institutions students have a chance to get to know each other and to form mutually-supportive alliances, OU biology students are uprooted and surrounded by strangers for a week, making it much harder for them to challenge authority-figures. Members of OUSA-affiliated society Students for Ethical Science (SES) have reported the following experiences at OU biology residential schools when they tried to resist educators' pressure to use freshly-killed animal tissue:

"I felt very isolated." (SES, 2000).

"I was in a very anxious state of mind as, at the end of the pre-summer school lecture, the director had said that if students missed a lab session they would not qualify for an attendance certificate. No certificate, no course credit. At the age of 42, the thought of another wasted year was unbearable." (SES, 1995)

Who survives the filter?

In such circumstances only students possessing independent, 'bloody-minded' (metaphorically speaking, of course) personalities will have the courage to make a unilateral stand against the arguments of the authority-figures facing them. This assertion is based on personal experience (of a metaphorically bloody-minded person!) and on psychologists' interviews with UN soldiers who were returning from the Korean War after Chinese attempts to indoctrinate them (Brown, 1996 pp.54-6).

A concern arising from this is that students with strong ethical objections to harming animals, but insufficient confidence to demand alternatives, will be filtered out of the life sciences (see below). A high proportion of survivors of the filtering process will be those who are highly deferent to authority (i.e. obedient and conformist), and who therefore agree to the experiments, although some of the remainder will be strong-willed, independent thinkers who refuse to perform them.

Empathic distress

The stress incurred by empathic students, whether or not they reluctantly succumb to pressure to collude in the harming of animals, leads many to abandon the life sciences.

Evidence of empathic distress includes reports of veterinary students entering laboratories in 'a cloud of solemnity', shedding tears and getting drunk afterwards (NEAVS, 1999-2001).

Distress is not confined to students who actively dissect animals. Members of SES attending a residential school for the recently-discontinued course 'Biology: Brain and Behaviour', in which animals were not physically harmed before or during experiments, reported:

"Students ... were upset about the rats being killed afterwards"

and

"It was very distressing to have to listen to their (day-old chicks') constant chirps in the rest room...about 200 male chicks will be gassed after we have observed them socialising." (SES, 2001a)

Sometimes distress and guilt occur long after the events, even in those who have survived the filtering process and gone on to work in their chosen field. A plastic surgeon recounted 'with horror' to the New England Anti-Vivisection Society and

Education Coalition (NEAVS) her recourse to mastering the breaking of rats' necks to prove that she was as good as any of the 'guys' (NEAVS, 2000). An SES member reported in an ongoing survey of members' attitudes that she is 'ashamed to say' that she dissected 'without a second thought' for her zoology A-level studies.

Filtering often occurs at an earlier stage. The aforementioned survey (an admittedly biased sample) reveals that of 49 respondents who had not taken OU biology courses, 24 (49%) cited 'ethical objections to animal use' as one reason or the only reason for this (SES, 2000). Several respondents to a survey of non-members who were taking/had taken OU courses S103 and S204 also gave this reason (SES, 2001b).

So what are the consequences of the 'filtering' process effected by compulsory animal experiments for the life sciences, and why are so many educators so determined to pressurise students into participating? The answer appears to be that each of these two phenomena reinforces the other, maintaining the status quo.

Educational socialisation

Biology teachers who take a hard line in favour of animal experiments may be exhibiting the consequences of their own socialisation as students: several studies show that students 'tend to gain an affinity toward whatever learning methods they are exposed to' (Balcombe, 2000 p.17).

The plastic surgeon's behaviour at medical school, and Solot and Arluke's (1997) observations of American high-school dissection students, are consistent with socialisation processes described for medical students in the Trigger Unit for OU course D317 (Murphy, 1996 pp.76-83)

Exaggerated stereotypes

Solot and Arluke found that boys tended to display a competitive approach, in which they tried to outdo each other in the grossness of their behaviour (such as racing to dig out the eyeballs of their dead 'specimens'). Both this and the plastic surgeon's account are also consistent with the concept of exaggerated stereotypes in social identity theory. Exaggeratedly stereotypical behaviour is that which group members perceive to be most representative of their group and most distinguishable from the behaviour of out-groups. Groups tend to become more extreme when their members adopt such behaviour (Brown, 1996 p.39).

It has also been suggested that the behaviour of the schoolboys illustrates a dominionistic attitude (Pedersen, 2000 pp.26-7). Finally, Solot and Arluke noted a hierarchical situation in which the teachers divested some of their authority to the formerly powerless students, who then projected it onto the dissection specimens.

Appeal to authoritarian personalities?

A report by the European Centre for the Validation of Alternative Methods refers to biology educators who are 'resistant to change' and 'not interested in the ethics of using animals' (ECVAM, 1999 p.13). It also cites 'deep-rooted prejudices' (against alternatives) (ibid. p.17).

Prejudice and resistance to change are characteristic of authoritarian personalities: Adorno *et al.* (1950) referred to such types displaying 'a desperate clinging to what appears to be a strong and disdainful rejection of whatever is relegated to the bottom'. Authoritarians are also said to be conventional, conformist, locked into stereotypical and categorical thinking, deferent to authority, intolerant of ambiguity and having both sadistic and masochistic trends. Such people are likely to take out any aggressive impulses on 'those seen as inferior or weaker in contemporary

political ideologies' (Wetherell, 1996 p.198). Although these quotations are taken from a context of the psychology of racism, it is perhaps not unreasonable to extrapolate them to what philosopher Peter Singer has termed 'speciesism' (Pedersen, 2000 p.71).

Clear hierarchical structures, as referred to above, would appear to appeal to those teachers and students who are locked into stereotypical and categorical thinking. Dominionistic behaviour, as perceived in the schoolboys observed by Solot and Arluke, is also conducive with strict hierarchies. These boys appeared to throw themselves with over-the-top enthusiasm into the exertion of power over their 'specimens', suggesting that they would welcome further similar experiences. Thus they might be more inclined than others to continue to study biology in the circumstances (these being that animal experimentation was compulsory). Furthermore, as was pointed out in the section on the unique pressures on OU students, the 'filter' favours obedient conformists who can be coerced relatively easily into participating in harmful activities which have an obvious ethical dimension. Milgram's obedience experiments in the 1960s clearly demonstrated the dangers of excessive obedience (Brown, 1996 pp.20-23).

Those who have passed the 'initiation ceremonies' of harmful animal experimentation, especially if they have done this without question (which is likely for authoritarian types), may feel that they *must* perpetuate the kind of learning experience which they themselves had. To accept that dissection is unnecessary and/or wrong risks opening the floodgates of guilt and losing the reassuring group identity which individuals have acquired.

Socialisation into harmful animal use is not always permanently internalised. However, those who have completed their rites of passage but retain reservations about animal use 'can suffer rejection from the scientific community', being 'perceived as having "gone over to the other side"' (Pedersen, 2000 p.71). This could indicate the existence of a 'freemasonry of biology' characterised by a rigid, dominionistic, authoritarian group identity, resistant to 'contamination' by those wishing to promote stronger ethical principles and to introduce new practices.

Desensitisation

There is evidence that students can be desensitised by being pressurised into harming animals or dissecting animals which have been killed for them. The British Medical Journal reported in 1983 that some Canadian neurologists temporarily lost their ability to recognise suffering in their patients following a year of training on experimental animals (IAAPEA, 1998).

Elena Maroueva, a veterinary student in Moscow, observed that, whilst her first-year contemporaries could not bear to watch frogs being killed, they found such experiments 'amusing' three years later (EuroNICHE, 1998 p.12).

There are now fears that the detachment traditionally encouraged in medical students is not appropriate for would-be doctors (Murphy, 1996 p.83). Similarly, desensitisation to animal welfare in students who wish to pursue animal-centred careers is a matter of growing concern.

Academic detriment

In addition to short- and long-term distress, desensitisation and the filtering out of more flexible, empathic students, another consequence of pressure to collude in animal harm can be inhibition of the learning process due to the stress induced by ethical conflict (ECVAM, 1999 p.8; Pedersen, 2000 p.86; Capaldo, 2001 p.6).

Finally, there may be a loss to the life sciences of many of the most promising students. This is the view of the UK co-ordinator of the International Network of Campaigns and Individuals for Humane Education, Nick Jukes:

"Ironically, considering the establishment they (conscientious objectors) are forced to challenge, they will also make some of the best scientists – open to the possibility of discarding the old when no longer appropriate (if it ever was), and who use the rigour of critical thought whilst never losing the heart that must inform even the most objective of decisions" (Jukes, 2000).

The opposite of this ideal is epitomised in a remark made by a medical student after a lab session:

"I am too lazy to exert conscientious objection." (Soderlund, 1990)

Scientific inertia

To conclude, the biology-teaching, medical, veterinary and medical research professions are at risk, due to the continuing educational use of harmful animal experiments, of containing a disproportionately large number of practitioners who either have absorbed their knowledge poorly or are relatively insensitive to issues of animal welfare and resistant to change. This resistance is likely to be reinforced by a loss to biology (perhaps relative to other scientific disciplines) of some of the most critical and innovative people and of those most likely to be empathic and open-minded towards students and others opposed to the utilitarian approach to animals.

The biology-based professions may consequently possess a self-perpetuating inertia, arising from known psychological mechanisms. This may represent an obstacle to scientific progress in the field.

Further research, particularly on the personalities of biology professionals, might facilitate a more complete understanding of this important ethics-related issue, although it is questionable whether the people concerned would be prepared to submit to such scrutiny.

REFERENCES

- Adorno, T.W., Frenkel-Brunswik, E., Levinson, D.J. and Sanford, R.N. (1950) *The Authoritarian Personality*, Harper and Row, New York, cited in Wetherell, M. (ed.) (1996)
- Balcombe, J. (2000) *The Use of Animals in Higher Education: Problems, Alternatives and Recommendations*, Humane Society Press, Washington, DC
- Brown, H. (1996) "Themes in Experimental Research on Groups from the 1930s to the 1990s" in Wetherell, M. (ed.) (1996)
- Capaldo, T. (2001) "The psychological effects on students of using animals in ways that they see as ethically, morally and religiously wrong", Proceedings of the 1st InterNICHE Conference, Brussels, 21-22 February 2001, InterNICHE, Leicester
- ECVAM (European Centre for the Validation of Alternative Methods) (1999) "Alternatives to the Use of Animals in Higher Education: The Report and Recommendations of ECVAM Workshop 33", ECVAM, Ispra, Italy
- EuroNICHE (European Network of Individuals and Campaigns for Humane Education) (1998) *Testimonies: Conscientious objection to animal use in education – testimonies from twelve students*, InterNICHE, Leicester
- IAAPEA (International Association Against Painful Experiments on Animals) (1998) *International Charter for Health and Humane Research*, IAAPEA, St Albans, UK, as described in Pedersen, H. (2000) p.25

- Jukes, N. (2000) "Alternatives in Education", Proceedings of EuroNICHE Conference on Alternatives to Animal Experiments, Copenhagen, 3-4 May 2000, InterNICHE, Leicester
- Murphy, J. (1996) Trigger Unit for OU Course D317, The Open University, Milton Keynes
- NEAVS (New England Anti-Vivisection Society and Education Coalition) (1999-2001) Investigations, internal documents and vet students evaluations, cited in Capaldo, T. (2001)
- NEAVS (2000) *Viewpoints 2000 series #2*, pp.2-3, cited in Capaldo, T. (2001)
- Orlans, F.B. (1993) *In the Name of Science. Issues in Responsible Animal Experimentation*, cited in Pedersen, H. (2000)
- Pedersen, H. (2000) *Humane Education: Animals and Alternatives in Laboratory Classes, Aspects, Attitudes and Implications* (Masters Thesis), Institute of International Education, Stockholm University, Sweden
- SES (1995) 'Conscientious Objection on S203', Students for Ethical Science, c/o Vivien Pomfrey, Launceston, Cornwall
- SES (2000) SES Attitudinal Survey (ongoing), Students for Ethical Science, c/o Vivien Pomfrey, Launceston, Cornwall
- SES (2001a) Newsletter May 2001, Students for Ethical Science, c/o Vivien Pomfrey, Launceston, Cornwall
- SES (2001b) E-mail questionnaire survey (ongoing) Students for Ethical Science, c/o Vivien Pomfrey, Launceston, Cornwall
- Soderlund, I. (1990) *Djurförsök i undervisningen. Dispensmöjlighet – ett informationsproblem. Trebetygsuppsats i informationsteknik*, 41-60. (Animal Experimentation in Teaching. Possibilities to Conscientious Objection – an Information Problem. B.A. Thesis in Information Science) Lund University, Lund, Sweden, cited in Pedersen, H. (2000) p.50
- Solot, D. and Arluke, A. (1997) "Learning the scientists' role: animal dissection in middle school", *Journal of Contemporary Ethnography* **vol.26** (1) 28-54, cited in Balcombe, J. (2000)
- Wetherell, M. (1996) 'Group Conflict and the Social Psychology of Racism', in Wetherell, M. (ed.) (1996)
- Wetherell, M. (ed.) (1996) *Identities, Groups and Social Issues*, The Open University, Milton Keynes
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