

# DISSECTION IN SCHOOLS

Dissection is the cutting up of dead animals to investigate their internal structure, as opposed to vivisection, which is the use of live animals in experiments.

The BUAV works primarily to end vivisection, but we are also concerned about dissection and its prevalence in schools. Although no record is kept of the numbers of animals reared and killed in schools, dissection of whole animals and organs is still commonly used to teach biology. Thus scientists and teachers of the future are being taught a means of learning biology without compassion in which animals are simply tools to be used and discarded.

## Animals used:

The types of animals commonly used in schools are mice, rats, frogs, fish and various invertebrates, such as snails, locusts and worms. A survey showed that methods of killing included the use of chloroform or ether, dislocation of the neck, suffocation with carbon dioxide, stunning and in the case of cold blooded animals, freezing<sup>1</sup>. Some schools do not rear or kill the animals themselves, but obtain them from a specialist supplier.

## Arguments against dissection

We believe that it is morally wrong to take the lives of healthy animals in the name of education. The breeding of animals for the sole purpose of killing them at our convenience, and using their bodies as tools, is, we believe, immoral.

The breeding and killing of animals raised by suppliers inevitably causes the animals stress and suffering. A desire to maximise profit means that they may be raised in over-crowded, barren cages. This raises concerns regarding animal welfare and psychological problems such as aggression resulting in physical injury. The

relatively low profit margins on animals raised for dissection mean that, as with their brief and unpleasant lives, their deaths may be equally stressful and painful.

In the past, the School Examining Boards have described dissection as "*educationally desirable*"<sup>2</sup> but one of their stated aims is that pupils should acquire a due respect for all living creatures. Dissection is incompatible with this aim. Pupils are desensitised to the taking of animal life. Dissection does not teach respect for life but cheapens and devalues it. Rather than perceiving animals as individuals with a right to live their own lives, students are taught to regard them as disposable laboratory tools, to be used and thrown away just like test tubes and Petri dishes.

Many pupils find dissection upsetting or distasteful and may well be put off studying biology<sup>3</sup>. To force an unwilling pupil to dissect is not only morally wrong, it may be traumatic to the student and reduce the likelihood of their continuing study of biology or science.

There is little, if any, educational or scientific merit to teaching dissection in schools. Modern techniques now provide the teacher with a whole range of alternatives, including audio-visual materials, models, museum

mounts and computer simulations, etc. These alternatives may be reused thereby not putting added strain on scarce school resources. In most cases these alternatives can furnish a pupil with a far better understanding of the life processes than dissection. Importantly, research evidence comparing educational outcomes for students learning using dissection versus alternatives show that students learn as much, or more, when taught using alternatives<sup>4</sup>. There are many kinds of alternatives available, including interactive computer simulations, videos and three-dimensional programs that provide a unique detailed view of animal anatomy, without harming animals. The development of medical illustration and microphotography, make it possible to film the internal anatomy and functioning of the human body, and show that dissection is an archaic learning method, by comparison<sup>5</sup>.

Most pupils studying biology at school will not continue into scientific research, and will have no need to develop dissection skills. Teaching dissection does just that: *teach dissection*. It does not reveal biological facts that could not be taught using a more compassionate method. Those who do intend to study life sciences deserve to be shown a more humane and responsible attitude towards living creatures. Even those who do not wish to pursue a scientific career will benefit from an alternative approach, gaining a better appreciation of animals and their worth and a more positive view of science.

### **School requirements<sup>6</sup>**

The introduction of the National Curriculum now means that all children from the age of five years upwards will study science throughout their primary and secondary education. Although there is no specific requirement for dissection at any stage of the National Curriculum, nor is it a compulsory component of any GCSE course, teachers may include dissection if they wish<sup>7</sup>.

The Department for Education and Employment (DFEE) does not discourage dissection. It states that work with animals in school science is educationally desirable, and although dissection should be kept to "the minimum necessary for good education", it is not outlawed<sup>8</sup>. Dissection is still suggested as an appropriate means of revealing different types of tissue within a structure<sup>9</sup>. This means that despite no pupil under 16 years old being specifically required to dissect, many may be expected to perform dissection by their teacher.

Local Education Authorities (LEAs) could theoretically impose bans on school dissection, although they have proved reluctant to do this in the past, preferring to issue guidelines for teachers rather than a strict prohibition. Although no LEA has issued a total ban on dissection, some have responded well to campaigns by local animal protection groups and issued guidelines ensuring pupils' and teachers' rights to conscientiously object, encouraging the use of alternatives and promoting suitable 'A' Level examination boards.

Each school has a Board of Governors on which sit both parent and teacher representatives. It is easier to achieve a dissection ban in an individual school, by approaching that school's Board of Governors, than to persuade an LEA to impose a ban on all the schools under its jurisdiction. It may be possible for a school to agree with a student choice policy. In this instance students may withdraw from a dissection class but be presented with an alternative without penalty.

From May 1990 schools have been able to opt out of local authority control and become what is known as 'grant maintained'. In these instances, the individual school will have to be approached rather than the LEA.

### **'A' Level Boards**

The situation at 'A' Level has seen a change in recent years, with dissection no longer a compulsory feature of many syllabuses

There has been a general move away from set practical exams, to teacher assessment of coursework, with teachers free to make their own choice of practical work. This of course makes it easier for teachers to omit dissection at 'A' level, but it can still be included by those who favour it. The Associated Examining Board, The Joint Matriculation Board, and the University of Cambridge Board do not specify that dissection is required and leave teachers free to include it or not. Some courses still require dissection of a mammal (usually a mouse or rat), but make provision for objectors by providing acceptable alternatives (e.g. Oxford and Cambridge, and The Welsh Joint Education Committee). This is undoubtedly a response to pressure from animal advocates and an increasing reluctance amongst pupils to dissect. Greater success for animal advocates was seen in changes in the London Board requirements. Since 1992

pupils have not had a practical exam and the inclusion of the dissection of a small mammal, formerly on the required coursework list, has been removed.

### Alternatives

There are a vast array of alternatives to dissection available now and these can be loaned for free by some organisations. A comprehensive list of alternatives, available from the major school suppliers, is produced by the Education Department of the RSPCA<sup>10</sup>. They include computer programs, films, videos, slides, photographs, transparencies, wall charts and three-dimensional models. Interniche, the international network of humane educators, has a comprehensive alternatives resource library that can loan alternatives to students and teachers. Interniche also produce a book, "From Guinea Pig to Computer Mouse", detailing alternatives to dissection and essays on replacing animal experiments in the school curriculum, which may be particularly useful for teachers, as well as students. The European Resource Centre for Alternatives in Higher Education (EURCA) provides a detailed online information service for students and teachers, with teacher evaluations of many humane alternatives. Other resource services include The Universities Federation for Animal Welfare, who produce an extensive list of videos to replace dissection and many animal experiments<sup>11</sup>.

At first glance, some of the alternatives can appear expensive and this may be a prime consideration for many schools. However as they are reusable and durable they may be cheaper than the repeated purchase of dead animals, whose bodies can only be used once and are then discarded. They also allow students to gain clear data from experimental simulations and often include student self-assessment, so that students learn effectively.

For learning manual dissection skills, there are a variety of alternatives which provide the same training, but do not require use of a dead animal. In high school life sciences this could include investigation of stained vascular tissue in plants or the use of computer dissections where the student uses the computer mouse as a scalpel; even in medical training, doctors now learn using computer simulations of complex surgery procedures.

### Websites of interest

There is plenty of help and information available on the internet from animal protection groups which specialise in campaigning against the use of animals in education and from the makers of computer programmes which can be used as alternatives to dissection in the classroom. Check out the following: -

[www.interniche.org](http://www.interniche.org)  
[www.eurca.org.uk](http://www.eurca.org.uk)  
[www.hsus.org/ace/11368](http://www.hsus.org/ace/11368)  
[www.animalearn.org](http://www.animalearn.org)  
[www.digitalfrog.com](http://www.digitalfrog.com)  
[www.froguts.com](http://www.froguts.com)  
[www.k12sciencestore.com/ShopSite/dissectionworks.html](http://www.k12sciencestore.com/ShopSite/dissectionworks.html)  
<http://curry.edschool.virginia.edu/go/frog/>

Online searchable databases detailing audiovisual alternatives to the use of animals in teaching from early biology education through to university level:

<http://oslovet.veths.no/NORINA/>  
<http://www.eurca.org.uk>

### What you can do as a student:

1. Discuss the issue with your parents/guardians and try to get their support. Before discussing the issue with them, ensure that you have gathered all the information that you can and think about how you should present your case. You may have to persuade them that you are not just being silly or squeamish, but that you have a real respect for animals. Be calm and respectful but firm.
2. Try to find out early on if dissection will be required on your biology course and let your parents/teacher know that you intend to refuse and would like an alternative to be offered. Suggest a range of possible alternatives: teachers are extremely busy so don't assume that they will know about these alternatives. Work with your teachers to establish a student choice policy.
3. Ask your parents or guardians to write to the school about the inclusion of dissection. They could also write or talk to the School Governors. Ensure that they have all the information about a range of alternatives and the reasons why you are objecting.
4. Start up a petition amongst pupils and parents against dissection. Submit it to the Head Teacher or

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Governors. Let them know your views. Signatures are a good means of showing the strength of support for your campaign.

5. No GCSE course requires dissection, but if you are doing 'A' levels choose a board where it is not compulsory. Write to the board to find out its exact policy on dissection and question them if it is compulsory.
6. Write to your Local Education Authority or local papers, raising the issue of dissection in schools.
7. Ask if you can discuss the issue of dissection in your science or general studies class, and hold a debate on it.
8. Remember you have the right to refuse to dissect on the grounds of conscience. You should not be forced to watch if you do not wish to, nor should you be penalised for your views.

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<sup>1</sup> Universities Federation for Animal Welfare (UFAW), *Euthanasia of Animals*. (1986).

<sup>2</sup> Dissection and Related Issues - Statement issued jointly by the GCE Examining Boards and the Secondary Examinations Council.

<sup>3</sup>For a good discussion see Lynda Birke 'On keeping a Respectful Distance' in *Reinventing Biology*, (eds) Lynda Birke & Ruth Hubbard. 1995, Indiana University Press p75-88.

<sup>4</sup> Kinzie et al. (1993), Strauss & Kinzie (1994), Downie & Meadows (1995) in 'From Guinea Pig to Computer Mouse 2<sup>nd</sup> edition (2003) by Nick Jukes and Mihnea Chiuiua. Interniche

<sup>5</sup> Alan D. Bowd Ph.D (1989) '*Alternatives to Dissection as an Instructional Technique*'. Humane Innovations and Alternatives to Animal Experimentation Vol. 3,

<sup>6</sup>Examination boards' position regarding dissection confirmed by email, March 2003.

<sup>7</sup> Science in the National Curriculum. Dept. of Education and Science and the Welsh Office. HMSO.

<sup>8</sup> Dept. of Education and Science. Administrative Memo. No. 1/89 2 Feb. 1989

<sup>9</sup> For example see Department for Education and Skills Science Unit:

[http://www.standards.dfes.gov.uk/schemes2/secondary\\_science/sci07a/07aq5b](http://www.standards.dfes.gov.uk/schemes2/secondary_science/sci07a/07aq5b)

<sup>10</sup> Dissection in Schools: A Guide to the Issues and Practical Alternatives (1989), RSPCA Education Dept., Wilberforce Way, Southwater, Horsham, West Sussex, RH13 7WN

<sup>11</sup> 'Animals in Science Teaching: A Directory of Audio Visual Alternatives, UFAW, 8 Hamilton Close, South Mimms, Potters Bar, Herts EN6 3QD.

**For more information please contact:  
The British Union for the Abolition of Vivisection  
16a Crane Grove  
London  
N7 8NN**

**Tel: 020 7700 4888  
Fax: 020 7700 0252  
E-mail: [info@buav.org](mailto:info@buav.org)  
Web: [www.buav.org](http://www.buav.org)**

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