

Research involving animals

SIR — The strength of opinion on both sides of the debate about the use of animals in research has generated mutual suspicion and discouraged rational discussion. In an attempt to break through the distrust, a group of antivivisectionists, members of animal welfare, research support and medical organizations, veterinarians, scientists using animals, members of bodies funding or directly engaged in research, moral philosophers and others, has been meeting over the past two years to exchange views. The participants were invited on the basis of their interest, knowledge and concern rather than as formal representatives of their organizations.

The discussions have been frank and wide-ranging, but constructive. Many of us were surprised by the extent of agreement on important issues, including commitment to the reduction, refinement and replacement of animals in research wherever possible, and unanimous condemnation of violence and intimidation against individuals and institutions.

We identified a number of areas for productive discussion, mainly centred on questions of openness and accountability, and especially the 'cost-benefit' analysis that forms part of the review of applications for project licences required for each programme of research under UK law. This essentially ethical judgement is ultimately in the hands of the Home Office, advised by its Animal Procedures Committee.

The group appointed a subcommittee to consider how accountability might be improved. The subcommittee focused on the scepticism engendered by the lack of openness in ethical assessment in the United Kingdom compared with others in which mandatory local institutional committees review proposals for research involving animals.

A discussion document prepared by the subcommittee identifies a number of potential advantages (to both sides of this debate) in the operation of institutional ethics committees:

- opportunity for discussion of ethical issues in animal research, particularly in the local context, thus encouraging best practice and assisting the essential cost-benefit analysis;
- widening consultation on animal research issues, improving the soundness of, and confidence in, decisions in this area;
- helping to create an environment in which broader educational benefits might follow within the institution;
- serving as an authoritative source of information about work in the institution, helping to protect individual researchers from harassment or misrepresentation of their work.

Potential disadvantages are also recognized:

- possible contradiction or duplication of the obligatory role of the Home Office;
- non-uniformity of policy or practice on animal issues across the country;
- increase in bureaucracy and cost in the regulation of research;
- the possibility that the involvement of more people in the ethical review might unreasonably delay or restrict research and even compromise confidentiality and the safety of researchers.

Subsequent discussion in the larger group concentrated on concern about the nature and role of 'lay' members, possibly including representatives of animal welfare/rights organizations, and the relationship between local committees and the statutory function of the Home Office. The latter problem might be dealt with, without changing the law, by making local committees advisory to the holder of the institution's Certificate of Designation, who must sign all project licence applications.

The group would welcome communications from organizations and individuals with experience of the operation of local ethics committees or who have views on this subject, particularly concerning the necessity for and role of lay representation.

Correspondence and requests for copies of the discussion document should be addressed to: The Boyd Group, PO Box 12421, Edinburgh EH2 4YB.

The positive and workmanlike approach of members of this group, despite their diverse backgrounds and positions, makes us hopeful that it may be possible to replace the kind of polarized argument that has characterized the debate on animal experimentation with a serious and constructive exchange of views.

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Apoptosis

SIR — John Funder (*Nature* 371, 98; 1994) was correct to call for pronouncing the second p in apoptosis, if we are to judge from words with related structures. The closest analogue is proptosis, which, like apoptosis, has a Greek prefix ending in o before the word ptosis, with main stress on

the long vowel o.

Searching on the electronic version of the *American Heritage Dictionary III* (1994 version), we found several dozen words (plus words derived from them) in which a form in -o is prefixed to a root beginning with pt. Without exception, this source calls for syllabifying the p of pt with the preceding syllable and pronouncing it there. Examples: acanthopterygian, archaeopteryx, coleoptile, haemoptysis, Neoptolemus, stearoptene. Similarly for words with a Greek prefix in -i — dipterous, triptych, peripteral — the p of pt is pronounced.

We do not have access to other electronic dictionaries, but we scanned Dorland's and Stedman's medical dictionaries plus *Webster's New International Dictionary* (3rd edition, 1976), and the *Oxford English Dictionary* (Second edition, 1984), which all agree with the pronunciations given in the *American Heritage Dictionary*.

Nonetheless, the confusion reflected in your correspondence columns extends to the experts. Dorland's and Stedman's disagree on the pronunciation of apoptosis. Dorland's opts for the p, while Stedman's leaves it out, though both sound the p in proptosis. But the analogues listed above make the pattern clear: the p of pt is not pronounced at the beginnings of words but is pronounced when it can be attached to a preceding syllable.

Søren Nørby (*Nature* 372, 312; 1994) calls for silencing the p of apoptosis in order to secure the understanding of the underlying science. We wonder whether he would agree to stop shifting the stress of atom in the word atomic for the same reason. In the accepted pronunciation of atomic, both of the vowels of atom are radically changed. We should also note that his example aminopterin, which he proposes as having a silent p, is incorrect, as in all the above-mentioned dictionaries the p is pronounced. Jonathan C. Busser and Alexandra Horowitz (*Nature* 372, 312; 1994) call attention to the example neuropsychology, which, like the base word psychology, does not get its p pronounced. But this is not revealing. Roots beginning with ps, such as psych, follow a different rule than roots that start with pt. The p is silent not only at the beginning of words but also following any prefixes. Thus, they are unlike pto, or pter, which, as we have seen, regularly retain the p after a vowel prefix.

On the basis of our search of the above-mentioned dictionaries, we conclude that the second p is not silent in apoptosis.

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