

dioxide poisoning, and the 'bends', to make diving safer. Some is to help to improve medical understanding: the cardiologist first passing a cardiac catheter on himself; self-curarisation; the paralysis of nerves by local anaesthesia, or nerve section, or vascular occlusion, to throw light on neurological problems. Much takes place in pharmacological work: early trials of metabolism, pilot studies on dose-level, analyses of mechanism of action. Unlike animal experiment no licence is needed, no annual return of the numbers of human experiments is needed, and no government office counts them. Thus it is not easy to estimate their number. But some indication is given by a single issue of just one monthly journal, the *British Journal of Clinical Pharmacology* which contained 20 papers, covering 124 experiments on normal human subjects (both young and old) and 99 experiments on patients. Scale this up, and one may well doubt if there is scope for much more human experiment than is already conducted.

Dr Frey's argument raises yet other issues. One can well argue that if no distinction can be drawn between man and animals, then neither can it be drawn between the animal and the vegetable world. So one could ask, as one contemplates the insectivorous plant *Drosera*, responsive to sun, rain, and the nutrients of the soil, and exquisitely sensitive to chemicals, and watches it close a leaf around and digest an insect caught on its hairs, 'Can anyone say that this plant is *less* enriched by its experience than a lion as it devours a buck, or a man enjoying his dinner?'. But this merely emphasises again the importance of one's view of man's relation to the rest of creation. But these are not the issues at the heart of the debate about animal experiment. In practice, I take the most important to be the assessment of the scientific value of an experiment, of the knowledge or benefit to be gained, and of the suffering (if any) involved, and the question of how to balance these. It is ultimately a moral problem, and a question of responsibility borne both by the scientist and by the rest of society in the characteristically human task of removing ignorance and minimising suffering.

## Response

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Professor Paton would have us believe that man's capacity to accumulate his experience by the spoken, written and printed word confers greater value on his life; but this generalisation does not help over the problem I posed.

A medical scientist engaged in serious work needs to perform experiments on retinas, experiments which in the end involve loss of sight and not in some accidental fashion; he may use the retinas of perfectly healthy rabbits or those of severely mentally-enfeebled humans. To put the matter somewhat elliptically, the scientist can blind the rabbits or blind the humans. How is this choice to be made? Presumably, Professor

Paton would point to the humans and maintain that they belong to a species that has the capacity to make significant advances on any number of fronts as a result of accumulated experience; but exactly how does this fact help with the case before us? These same mentally-enfeebled humans belong to a species capable of producing Beethovens, Mozarts and Schuberts, but that in no way makes *them* composers or confers on *their* lives any value. So exactly how is the fact that our species has been capable of great wonders supposed to help out in the cases of those humans far removed from any such wonders? Professor Paton writes: 'Few would accept that because a particular instance of animal life is more valuable than a particular instance of human life, therefore no human life is more valuable than animal life'. Of course not; nor did I suggest anything so silly. But the people to be used by the scientist are not fully normal humans but seriously defective ones, who are still such – they have eyeballs – as to be suitable experimental subjects. Clearly, Professor Paton has given us no reason for not carrying out the experiment upon the humans in question; for, to repeat, the mere fact that my species can produce a Beethoven does not *per se* make *my* life any more valuable than that of a mouse.

Professor Paton writes at one point about our having to obtain the consent of human subjects and of our having no means of obtaining consent from animals; but I should have thought he was unwise to make much of this. Animals may not be able to consent, but that does not appear to stop Professor Paton using them as experimental subjects; whereas, though it makes no sense to speak of obtaining the consent of the severely mentally-enfeebled, I presume he would recoil from *their* use as subjects for blinding. Why? What makes him hesitate in their case but go ahead in the case of rabbits? My strong suspicion is that he intuitively accepts human life as more valuable than animal life, even when all the grandiose talk of our capacities and accomplishments is inapplicable, and it would be interesting to know how he justifies this intuition.

Professor Paton speaks of my use of hearsay, my failure to consult medical reports, my making it appear as if no human experiments have been performed; well, here is his chance to nail down his accusations. I can point to a number of instances where rabbits with good eyesight have knowingly been blinded in the course of experimental work; I ask him if he can point to a single instance where a human subject, with otherwise good or perfect eyesight, has knowingly been blinded by a medical experimenter. If he can, then let him name names; if he cannot, then he might justly be accused of having failed to take my point, which, as readers will know, is that we do not do to defective humans all that we presently do in our laboratories to quite healthy animals. My interest is in why we do not. If the justification is that we think human life of greater value than animal life, then we must be prepared to face the facts, at least on the grounds I suggested, that (i) not all human life is of the same value and (ii) some human life has a value so low as to be exceeded by some animal life.