

In our Time Programme 23
Animal Rights

Melvyn Bragg : Hello, today we look at one of the most impassioned debates of the late 20th century in this country, animal rights, and the use of animals in furthering scientific understanding. What's the place of animals in or quest to increase human knowledge? Is it still necessary to experiment on animals for the good of human kind? Or is that morally unacceptable and barbaric, particularly in the light of new research into animal consciousness? Colin Blakemore is Professor of Physiology at Oxford University, and no stranger to controversy as they say. In the 1990s, at the height of the BSE crisis, he spoke out saying "eating beef was just not worth the risk". In the 1980s he was a target for animal welfare activists, who were protesting at his research methods. He was made president of the British Association for the Advancement of Science in 1997.

Dr Linda Burke's a Biologist with a special interest in the social and political aspects of science. Currently teaching at Lancaster and Warwick Universities, previously she worked for 7 years in animal behaviour alongside the neuroscientist Professor Steven Rose at the Open University. In one of her books she wrote, "potential benefits to humans and indeed usually only to specific sub-groups of humans, must not be used to justify subjecting people or other organisms to experimental situations, we would not accept for ourselves or our loved ones".

Colin Blakemore, in a recent newspaper interview, you said, "I hate working with animals, I think it's wrong, and I think it's evil, but I think for now it's a utilitarian equation, it's necessary, and a scientist must have honesty and integrity and be accountable". What do you mean by saying that animals experiments are utilitarian?

Colin Blakemore : One has to see our use of animals, not just for medical research, but all the ways that we use them, as part of a balance of cost and benefit, that to take an animal life, is, as I said, I would stick by it, wrong. The world would be a better place if we didn't have to take advantage of animals in any manner. But I guess anybody who makes use of animals, to eat them or to wear them or train them for circuses or to use them for advertising or to do medical research, would make an argument that there is some benefit from doing so, and I think that in each case, and each of those cases is a different moral case, we just have to judge the validity of that utilitarian equation.

Melvyn Bragg : One strong area is the use of animals for research, and let's talk about the use of animals for research into curing, helping to cure, diseases that human beings have. Can you give us some idea of the what has happened in that area?

Colin Blakemore : This has to be the starting point, at least one of the starting points for the discussion about medical research, because of the level of misunderstanding, misperception. A survey of school kids 14-15 olds a few years ago, showed that 90% of them thought that no advance in medicine, no advance in medicine had ever depended on the use of animals.

I mean that reflects two things, the effectiveness I think of some of the propaganda against animals use, and the ineffectiveness of our side of this argument, by our I mean the medical community and the research community.

Melvyn Bragg : So could you tell us, just reel off a few of the things that you think have important.....

Colin Blakemore : It's actually very difficult to think of any medical treatment that has not, at some point in its development needed animal use

Melvyn Bragg : We're still seeking examples Colin?

Colin Blakemore : (laughs) Alright, penicillin, antibiotics, hormone treatments, insulin, vaccinations, all forms of vaccine, polio, diphtheria, whooping cough and so on, treatments for asthma, for ulcers, blood transfusion, every form of surgery, cardiac surgery, bypass surgery, hip replacement, treatments for heart disease, tuberculosis and so on. Any area of medical practice whatsoever, and not just for humans by the way, for animals too of course. All forms of veterinary treatment have depended on for their development on the use of animals

Melvyn Bragg : Now that's an immensely long list, and you're saying in every case and includes treatments for animals, your saying in every case, animals have been helpful, are you also saying animals have been necessary?

Colin Blakemore : Ahhhh (long drawn breath) in the context in which the work was done, absolutely necessary. I

mean one always has to be questioning and probing and testing whether there are ways to gain the same knowledge without the use of animals. One of the arguments which I think I do listen to as being more convincing than many, is that there is a sort of complacency in medical research. That what has worked in the past and which can certainly work in the future is just used because it's there, and I think that not enough medical scientists do pay constant attention to the need to think about alternative approaches.

Melvyn Bragg : Before I turn to Linda, because as I say I'm just going to lay the platform, there'll be plenty of time for both of you to come in. A final fact, or it might be a fact or it might be a false fact, you'll tell me. When I was researching this, the discovery of penicillin depended on 8 mice, 4 of which died, but so far we know at least 30 million have been helped.

Colin Blakemore : That's right, and the crucial work was done in Oxford as it happens, in the 1940s with enormous problems with septicemia and infection amongst troops in the 2nd world war, that's what stimulated the effort. But yes, the standard tests and still used by the way, the 8 mouse test for all 8 mice infected with streptococcus, 4 of them treated with penicillin. Those 4 didn't die, the other 4 did, and within a very short period of time penicillin was in use on the wards in the Radcliff infirmary. Having now saved well, countless tens of millions of lives, humans and animals.

Melvyn Bragg : Right. Linda Burke, in the light of that, do you think that you would say that experiments with animals cannot be justified to alleviate human suffering or to advance human health and life expectancy and relieve pain and that sort of thing?

Linda Burke : Obviously in the light of that it would be very hard to refute that. Clearly there are some benefits which have had the use of animals in their history, let's put it that way. I slightly hesitate about the use of the words "depended upon", because Colin recognised that there may well have been other methods that might, had we had a different history to science, might have evolved.

Melvyn Bragg : What other methods would there have been, for instance?

Linda Burke : Well that's because we have only this one history of science that we've had it's difficult to say what they could be.

Melvyn Bragg : But for instance, with the use of the 8 mice experiment for penicillin, would you have used 8 human beings, or what would you have done?

Linda Burke : I don't know what I'd have done.

Melvyn Bragg : I'm genuinely interested.

Linda Burke : I don't know what I'd have done. I think the problem is one of the methods of science are profoundly reductionist, and I think this is probably a point on which, I suspect Colin and I would agree. My moral position is simply that I really find it immoral to inflict suffering on animals, under any circumstances. Colin is quite right to point out the fact that in our culture we *use* animals in a whole lot of different ways. We can then have the debate about the extent to which the animals suffer in any of those uses. I don't think that we would dispute between us that there is the potential for suffering in a number of uses of animals in science, and one of the changes that has been happening, certainly in recent years, which I think is a good one, is that there is now far more attention paid to ways in which the suffering might be reduced. To take up Colin's point about complacency, however, it is still a problem amongst the scientific community, for example, one of the things that very often gets said is the number of animals that are actually anaesthetised during a particular procedure, it is still not widespread practice to discuss post-operative analgesia. Animals once operated on might be returned to an animal house where the technicians will take care of them, but any means of reducing or alleviating subsequent pain are not widely discussed. I think in Britain now that is changing.

Melvyn Bragg : Er, but how do you compare the suffering of animals, which undoubtedly goes on, in experiments with the suffering of, oh I don't know, battery chickens and turkeys stuffed up for Christmas, and I don't know, poultry fed up to eat, salmon confined in tanks in lochs so that we can eat them? I mean how do you compare

that...the stuff we eat , and experiments? Would you stop all that happening too?

Linda Burke : I want to see a society in which we try to prevent all kinds of suffering to animals, and I think that there....

Melvyn Bragg : Well we're all on that side, but I mean it's just a practical question. Would you actually say that as well as banning the use of animals for the laboratory, we ban the use of animals for the sort of food that a lot of people listening to this program eat.

Linda Burke : I suppose there's a part of me that's sympathetic to that claim, and if you are going to be...

Melvyn Bragg : I think we're all sympathetic, but do you think we should do it?

Linda Burke : (laughs) You keep pushing me to say yes or no, and I don't want to!

Melvyn Bragg : (laughs) That's fair enough! Colin Blakemore, well both of you really, how do you think, this obviously is a real concern, it's a growing concern, it's a concern that serious people have, how is science currently taking aboard this concern? First of all Colin Blakemore and then Linda.

Colin Blakemore : Well I think there are two ways in which scientists show their concern. one is to have it forced on them, because the nature of the law is very clear, you cannot use animals...it's illegal to use an animal for an experiment if there is any alternative, I mean you have to demonstrate that there is no alternative way to solve the problem. Secondly you have to pay very specific attention to suffering and to document in detail what that possibility is, and the issuing of project licenses, for particular experiments, and every experiment has to have its own license, which describes in detail all the procedures the anaesthetics the post-operative care, and everything. That has to document why you've chosen the particular species, why a lower species, as it were, is not adequate, why the numbers have been selected, why they couldn't be lower, or in some cases why they shouldn't higher to support the statistics, and what's being done to alleviate any possibility of suffering, and all of that goes in to some huge moral calculation that's supposed to be exercised by the Home Office.

Now, you know, you might express doubts about whether that's possible, but that's the nature of the law. The second concern is, you know scientists are people too. One of the biggest problems we have is to fight against the image of scientists as inherently evil, misguided white-coated lunatics who walk into their laboratory each morning and say, "What dreadful thing can we do to an animal today that we might get away with". You know scientists are responsible people, there's a lot of debate amongst Biologists at the moment about how techniques can be refined, ah well let me put it specifically, where have the alternatives to animal use, that we all pray for come from? They've come of course from scientists themselves, mainly from scientists who have previously been involved directly in work on whole animals.

Melvyn Bragg : Er I'd like to take a word you used two or three times in that answer, which was the word "lower" and talk to Linda about the hierarchies which are involved in all this , as it were, in a hierarchical sense, starting with us, and going down to them, them, them (indistinct)diminui. Can you just discuss why you object to that?

Linda Burke : Years ago I read an article in a book about animal intelligence, which said every animal is the smartest. It then went on to argue that every animal is smart, intelligent, within it's particular ecological niche. Now obviously I'm not going to try and claim great intellectual feats for nematode worms, partly because I'm not sure that I would even know how to ask the question of a nematode worm! but one of the problems of the categorisation of higher and lower animals, while it has some usefulness of course, is that it does rather obscure differences between animals that are not quantitative and linear, they're qualitative. I don't actually know how we can understand the world of many other mammals which are very olfactory for instance, and so if your asking questions about intelligence or consciousness of particular species, quite often I think we just go in completely the wrong direction because we don't understand enough what it means to be that particular animal in the wild or even in the laboratory.

Melvyn Bragg : Well we know certain things. I mean we know for example that animals feel pain. We can see that, and some animals feel extreme pain in extreme situations very like humans. Now is that a factor in the position you take about experiments of animals.

Linda Burke : Oh I do think that we do know that animals feel pain. The mechanisms of pain reception, physiologically seem to be quite widespread across the animal kingdom, certainly chemically.

Melvyn Bragg : But then we come to sort of knowledge of self and consciousness. I remember David Attenborough saying in an interview that he didn't know whether a fox for instance, would know, or as it were, mind whether it was killed being in an extreme situation in the wild or in an extreme semi-artificial situation, being hunted down by a pack of hounds, at the time would it....and so we're coming near the are of consciousness. Do you take it, I'd like to know first, as one measure of animals claim to full rights in this as being whether or not they have consciousness, is that part of the argument you're proposing?

Linda Burke : The concept of rights is quite problematic. As a feminist I certainly don't believe that in this country or elsewhere in the world women have rights in that United Nations kind of sense. So extrapolating rights to other animals is tricky. There are ways in which it can be useful. I was reminded of, reading an article recently by (indistinct) who's done all the work on Orang-utans, and she was pointing out that, actually she did use the word "rights", talking about the concept of Orang-utan's needing or having a right to living in a forest, and arguing that then also affects the human communities who live in that part of the world. Both of who, the animals concerned, the apes and the human communities being affected by multi national companies and their logging performance and so on. So there's a loss of rights that actually locates the animals very closely to the humans, and I think maybe in that sense, there might be some sense to using the word "rights". It's a kind of heuristic one.

Melvyn Bragg : Is there a cut off point? Because we know that those, you know our pets, dogs are very intelligent, and horses we know are very intelligent and people credit them with all sorts of things including consciousness, but how far and Orang -utans and chimpanzees and the near relation they have, that strange less than 2% distance away from us genetically and so on. But is there a cut off point? And if there's a cut off point, where does that leave your argument? .

I mean when we're talking about mice, we're going further and further, if I can use the word "down " the chain, or along the chain. Do you think there is a cut off point, or are we still talking about worms, are we still talking the same things about worms have rights? I think you have to face up to this philosophically, I mean you tell me?

Linda Burke : Yes you do have to face up to it philosophically, and some people who argue for animal rights philosophically have tried to draw lines. I think it's extraordinarily difficult, and you might for example have a debate about where you would draw the line with respect to mechanisms of pain perception. You might draw the line in terms of known responses in terms of behavioural suffering, you might draw that line somewhere else. That's part of the difficulty, to draw the line absolutely is really quite difficult. Of course the British law does specify that vertebrates have to be under...they're the ones that are brought under the law and you can only use them, vertebrates under particular conditions. The law does not extend to say, using a fruit fly.

Melvyn Bragg : Colin Blakemore, what's your view of this?

Colin Blakemore : Well I share Linda's concern about this notion of rights, and I'm glad to see her acknowledge that. Going down that road of simply asking "what has rights, and where do we come up against a kind of absolute barrier beyond which some species don't have rights" is sort of vacuous. It doesn't get us anywhere. I mean Peter Singer in Animal Liberation considered this question and ended up with not a very biological view that the boundary lay somewhere between wasn't it rats and flounders, which seems a very odd place to put it! (laughter)

I mean we're bound to make those kinds of judgements on multiple criteria, familiarity being the most obvious one. I mean we are all inclined to think that dogs and cats and horses are bound to have feelings and be conscious, but be a bit more suspicious about alligators and I don't know elephants because we're less aware of them, and that's bad.

That's bad biology, it's certainly bad philosophy. I mean Linda mentioned that the law in Britain draws the line at vertebrates. Interestingly, octopus has just been included recently within the law, and I think that's absolutely right, and the reason for that was increasing knowledge of the sophistication of the behaviour of octopus, with it's very big nervous system. So I think we have to, I mean the starting point for this discussion should be that we should minimise suffering in the world, I mean that's got to be the case, whether it's a fruit fly or a gorilla and judge each species as it were on its merits and again ask why should you want to interfere with this species at all, in considering whether it could be justified.

Melvyn Bragg : Yes but what I'd like to know from Linda is at what stage in any animal, would you say, "this

animal cannot be used", what does the animal have to have for you to say, "we can't use that animal for experiment", we might use another one, or we might use a different sort of thing, what has the animal to have for you to say, "this is not acceptable"?

Linda Burke : Characteristics?

Melvyn Bragg : No, what is it? Is it that it feels pain? Is it that you think it's got consciousness, is it ...what are you looking for?

Linda Burke : Oh I think it's a combination of pain and consciousness.

Melvyn Bragg : And how do you judge these things that's what I'd like to know? What are your other criteria?

Linda Burke : The criteria have to be to do with pain and consciousness. The problem is that having said that those are the criteria, it's not always easy to recognise exactly how to apply those.

Melvyn Bragg : But then we come back to this question raised earlier, which was, if you apply these to experiments don't you apply also to the fish we catch and eat, the chickens, battery chickens.

Linda Burke : Yes!

Melvyn Bragg : The turkeys, so the whole thing therefore, in your view to be questioned, and the whole thing could therefore be as it were, outlawed in that sense.

Linda Burke : I think that I have grave concerns about anything that causes animal suffering and that isn't just applied to the use of animals in physiological experiments or whatever . What I would like to raise though is the question of the ways in which scientists are brought up, in general, and I do think that certainly in my life time there was a very strong tendency to repress any questioning of the use of animals. I was told very firmly not to show any signs of emotion when I got upset about having to dissect a rabbit at 17 as part of an A level class, and I think that that's still there, although perhaps it's beginning to change. And it was interesting that when a colleague and were doing a study of...a sociological study of how scientists themselves perceive animal experimentation in the wake of the change in legislation that came in 1986, quite a few referred to the ways in which the change in legislation had created a change in climate, if you like, so that they are now beginning to think about it more. it's also true that some said that nothing at all has changed since the act.

Melvyn Bragg : Colin Blakemore?

Colin Blakemore : One, I think very good feature of the law, is that the animals involved actually have there spokes people who speak and act on their behalf. There have to be veterinarians in every establishment, technicians increasingly, are taught to be the representatives, the advocates for animals. There has to be a so-called day-to-day care person who essentially has to take the role of taking the animals position and defending them in interactions with scientists, and I think scientists do and certainly should feel less in total control, autonomous control of the way experiments are organised and more part of a dialogue with technicians, vets, and others, and even as it were, tacitly the animals themselves, about whether what is being done is worthwhile.

Melvyn Bragg : Can I wield rather a blunt instrumental this stage if you don't mind? And just ask two questions, one is do you seriously as a scientist, see any possibility of getting the results that have come from animals over the past, let's say 30-40 years through any other method A ? A and B, do you consider that if we become more and more strict in this country, this is going to stop or it's just going to happen in many other countries and that's all there is to it? So could you answer both those questions?

Colin Blakemore : Yes well taking the latter point first I think that's a real risk.

Melvyn Bragg : And be not as well controlled.

Colin Blakemore : That we may by exercising our own , as it were , philosophical luxury, being able to make

those kinds of choices, we may simply raise the level of suffering elsewhere, when the work is done in the third world or whatever. Chances of reducing animals use? Well, look at the facts, animal use has reduced by factor of 3 since the 1970s and the trend until very recently has been absolutely consistently linearly downwards. There is a problem we have to deal with, I think, in that respect and that is the development of transgenesis, transgenic animals, animals whose genetics have been deliberately interfered with. That's causing a blip in the figures because that technique is so amazingly powerful, in providing medical researchers with much more compelling and convincing models of human disease, than they have ever had before. On the other hand I think there's a dilemma here, because if you muck around with the genes of animals, you also create the potential for even greater suffering in the animals themselves, and I think we have to pay much more attention to that equation as we look at the apparent amazing benefits of transgenic research.

Linda Burke : Creation of transgenic animals does indeed raise a number of issues that I think we need to be debating very urgently because there is certainly a potential for greater suffering there. I worry a great deal about processes of genetic engineering, because I'm rather concerned that we don't always know what the outcome will be of moving one gene from one organism to another. We don't know enough about the way that gene interacts with the physiology it finds itself in.

Melvyn Bragg : But we have to come back to this very, very, very awkward balance, the difficult balance and when I'm asking this question, in a sense there can't be a definitive answer, but the balance is being made by thoroughly responsible scientists, in my view, and by a state which is trying its best and putting in all sorts of rules and regulations, the balance is if we do these experiments we will arrive at a cure for something which is extremely damaging and painful to often millions of people, often, if one wants to be emotional, millions of children, and therefore are these number of, whatever it is, mice or such, are they to be subject to this or are they not. Now these judgements are made every day in the laboratory, and I agree that they're difficult but where do you, Linda where do you..... what's your...what's your view of this balance, do you have a clear view?

Linda Burke : Of the cost benefit balance?

Melvyn Bragg : Yes. That's right.

Linda Burke : Erm, I think it's quite a useful way at looking at things from the purposes of operating the law, and its enshrinement in the 1986 act was probably beneficial in that sense. The trouble is it's talked about as though its a very simple cost benefit equation, and I don't think it is that simple.

Melvyn Bragg : You don't?

Linda Burke : No I think there's a tendency sometimes to forget that there's..... we don't always...that the suffering is borne by the animals and that we don't always know exactly the extent to which they are suffering.

Melvyn Bragg : You talk about being worried that there's not enough emotion in science, it's too reductionist and objective, how would emotion in science help?

Linda Burke : I think you will have seen some of the writing I've done which has been looking at the ways in which science papers are written.

Melvyn Bragg : Sure.

Linda Burke : And the methods section of various...we did a big analysis of methods sections of various journal articles. There's an enormous amount of information which is not given, which should be.

Firstly for the replicability of experiments, which is partly why the methods section is there, but also about how the animals are housed. These may be quite crucial details. I mean for example, erm a quarter of the papers won't tell you the number of animals per cage, which might be crucial for a great many physiological and immunological experiments. Erm and there are various other figures, er half don't specify age in the sample that we had. But we also looked at the ways that papers are written, and I believe that you've had some comments on this in the past before Colin, erm that they're written in a way which certainly excludes emotion and excludes agency.

But also plays down what happens to the animal.

Melvyn Bragg : Colin what's your view on this?

Colin Blakemore : I agree, the nature of scientific presentation is too sanitised emotion to leave crystallised rationality alone. I mean there is no space in journal articles for the kinds of things I think most scientists would want to say about their concerns, about the care that they've taken about the choice of the number of animals, about the care that's been given after procedures and so on. It would get struck out with a red pen by any journalist, there's enormous pressure on space.

And it doesn't kind of fit the style, as you say, of presentation of modern science.

Melvyn Bragg : Can I just ask a final question of both of you? Which is really this, is erm there's an increased activity for animal rights, as we know it's going on in Australia with Singer and so on and so forth, that animals....there's a question as to whether rights can be divorced from responsibilities. I mean you dog has rights to be looked after, but will the dog sort of bring you breakfast if you got flu, I know that's silly but....

Linda Burke : I wish!

Melvyn Bragg : Do you think these two things are on a collision course, and if so what is going to happen? First Colin Blakemore and then finally Linda.

Colin Blakemore : I think it's something that like liberalism, like capitalism, it is a movement that will probably continue inexorably, and we have to come to terms with it. I think you know, we can't hope to have a single equation that is going to work for the whole of the world, that's for sure. I've just come back from India, and the notion of imposing our erudite and luxurious views of the nature of our responsibility towards animals to a developing community is ludicrous. But I think it's absolutely right that like our attitudes to each other, to minority groups, to the environment, it's actually very, very good that we should embrace our attitude to animals as part of our broad moral perspective.

Melvyn Bragg : Linda Burke final word?

Linda Burke : Yes I mean I would welcome that sense of a widening circle if you like of understanding about moral responsibility towards all kinds of other animals, and I do think there is a widening circle. So I would say that although yes it has been increasing in recent years, protests against the use of animals in science have a very long history.

Melvyn Bragg : Well thank you both very much. Thanks to Professor Colin Blakemore and Dr Linda Burke and thank you very much for listening.