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Charles Darwin, the founder of the theory of evolution by natural selection, still stirs controversy as the public tries to grapple with his theories of selection and their implications for our species and its future. Yet as controversial as evolution by natural selection was, Darwin never publicly debated his views, rather he relied on colleagues and letters to newspapers to be his forum. However, there was one subject that so moved Darwin that he appeared before a Royal Commission of Parliament to discuss his views. Views so strong, that his son Francis said his father would become so angry that he hardly could trust himself to speak. The subject was animal rights (Darwin 1897).

Animal rights, or vivisection as it was called in England at the time, concerned the use of animals in scientific experiments. This was a subject that not only concerned Charles Darwin, but also several members of his family. Darwin one time cautioned his friend, George Romanes, not to bring up the subject in front of the family to avoid an uncomfortable situation.

The Darwin family's disdain for suffering was not restricted to animals but also included human suffering. The Darwin's had long been opposed to slavery. On the voyage of H.M.S. Beagle, Charles' letters to home vividly show his disgust with the practice (Burkhardt and Smith 1985).

With regard to animals, Darwin had a reputation in Downe such that carriage drivers would slow their horses when they past Darwin's estate. According to one report, if a driver whipped his horse or drove too fast Darwin would be out chastising him (Darwin 1897).

Darwin was a member of the Royal Society for the Prevention of Cruelty to Animals. But he was also a scientist with an appreciation for what the scientific use of animals could mean to human suffering. On the other hand, he was, in his youth, an avid hunter who anxiously waited for the hunting season to begin. So it is clear that Darwin recognized the double standard being applied by society. Here was England, a population of hunters, meat eaters, animal trainers, etc. trying to claim that scientific research was the cause of animal suffering. Indeed, Thomas Huxley in 1890 summed up the inconsistencies in English society when he wrote that nobody should be against vivisection if they eat meat, drive a castrated horse, kill rats, fleas, bugs, and other vermin. Huxley pointed out that the antivisectionists should also be against war (Huxley 1901)! Evidence indicates that this sentiment was consistent with Darwin's views.

The controversy about the use of animals for experimental purposes came to the forefront in 1874 and a Royal Commission was appointed to take testimony. Darwin was called to give testimony before the Commission by his friend and Commission member Thomas Huxley. Darwin was called because he had been associated with a series of resolutions that was introduced as a bill before Parliament. The resolutions were presented to the Commission by the President of the Royal College of Surgeons, Sir James Paget. According to the Report of the Commission the resolutions were passed at the meeting of the British Association for the Advancement of Science in Edinburgh in 1871. These resolutions were:

(1.) No experiment which can be performed under the influence of an anesthetic ought to be done without it. (II.) No painful experiment is justifiable for the mere purpose of illustrating a law or fact already demonstrated; in other words,

experimentation without the employment of anesthetics is not a fitting exhibition for teaching purposes. (III.) Whenever, for the investigation of new truth, it is necessary to make a painful experiment, every effort should be made to insure success, in order the sufferings inflicted may not be wasted. For this reason, no painful experiment ought to be performed by an unskilled person, with insufficient instruments and assistance, or in places not suitable to the purpose; that is to say, anywhere except in physiological and pathological laboratories, under proper regulations. (IV.) In the scientific preparation for veterinary practice, operations ought not be performed upon living animals for the mere purpose of obtaining greater operative dexterity (Anonymous 1876).

The resolutions' list of supporters reads like a who's who of British scientific society. The Commission report reads, "Sir James Paget proceeded to say that these resolutions had received his entire approval. The principle of them was adopted in a petition signed by Mr. Darwin, Professor Owen, Mr. Huxley, Sir William Gull, Sir William Jenner, the President of the College of Physicians, and several more leaders in science (Anonymous 1876).

Darwin presented his testimony on Wednesday, November 3, 1875. Emma Darwin, Darwin's wife wrote to their son Leonard five days later, "Father went to the Vivisection Commission at 2. Lord Cardwell came to the door to receive him and he was treated like a Duke. They only wanted him to repeat what he had said in his letter . . . it was over in 10 minutes, Lord C coming to the door and thanking him (Litch-field 1915)."

The transcript of the testimony is revealing about Darwin's views not only on animal rights but how he responds under pressure. The following is Darwin's testimony:

Wednesday, 3rd November 1875.

Present:

The Right Hon. Viscount Cardwell, in the chair.

The Right Hon. Lord Winmarleigh Sir J. B. Karslake, M.P. Thomas Henry Huxley, Esq. John Eric Erichsen, Esq. Richard Holt Hutton, Esq.

N. Baker, Esq., Secretary.

Mr. Charles Darwin called in and examined.

4661. (Chairman.) We are very sensible of your kindness in coming at some sacrifice to yourself to express your opinions to the Commission. We attribute it to the great interest which we know you take in the subject referred to us, both on the score of science and also on the score of humanity?—Yes, I have felt great interest in it.

4662. I think you took part in preparing the resolutions of the British Association at their meeting in Edinburgh in 1871?—No; I had nothing to do with that. I was very glad to see them, and approved of them; but I had nothing to do with the framing of those resolutions; I did not attend the meeting.

4663. But you signed a petition which embodied them?—When they were sent to me I may have done so. I do not remember it; but if my signature is attached I must have given it; I had forgotten it.

4664. But you cordially approved of them?—I cordially approved of them. I had occasion to read them over lately at the time when this subject was beginning to be agitated. I read them over with care and highly approved of them then. 4665. I think you took some part in the preparation of a Bill which is ultimately laid before the House of Commons by Dr. Lyon Playfair?—In the steps preparatory to that Bill, but the Bill itself did not exactly express the conclusions at which after consultation with several physiologists we arrived; I apprehend that it was accidentally altered.

4666. But in the main you were an approving party?-In the main.

4667. You have never, I think, yourself, either directly or indirectly been connected with the practice of trying experiments upon living animals?—Never.

4668. Will you have the kindness to state to us the views which you desire to lay before the Commission in connection with it?—The first thing that I would say is, that I am fully convinced that physiology can progress only by the aid of experiments on living animals. I cannot think of any one step which has been made in physiology without that aid. No doubt many surmises with regard to the circulation of the blood could be formed from the position of the valves in the veins, and so forth, but certainly such as it required for the progress of any science can be arrived at in the case of physiology only by means of experiments on living animals.

4669. Then I need hardly ask you what your opinion is as to the notion of prohibiting them all together?—In my opinion it would be a very great evil, because many reasons, mostly general, but some special, may be assigned for a full conviction that hereafter physiology cannot fail to confer the highest benefits on mankind. Many grounds, I think, can be assigned for this conviction.

4670. Is it your opinion that most of the experiments can be performed while the animal is entirely insensible to pain?—That is my belief; but I ought to state that I have no claim to rank as a physiologist. I have, during many years, read largely on the subject, both general treatises and special papers, and in that respect I have gained some general knowledge, but as I have said, I have no claim to be called a physiologist, and I have had nothing to do in teaching physiology; but from all I can learn, the exceptions are extremely few in which an animal could not be experimented on in a state of entire insensibility.

4671. Then to hesitate to perform experiments, though painful in their nature, when the animal was rendered insensible, would not be, in your opinion, a judicious course to recommend to the Queen and Parliament?—Certainly not. It is unintelligible to me how anybody could object to such experiments. I can understand a Hindu, who would object to a animal being slaughtered for food, disapproving of such experiments, but it is absolutely unintelligible to me on what ground the objection is made in this country.

4672. Now with regard to trying a painful experiment without anesthetics, when the same experiment could be made with anesthetics, or, in short, inflicting any pain that was not absolutely necessary upon any animal, what would be your view on that subject?—It deserves detestation and abhorrence.

The witness withdrew (Anonymous 1876:234).

It is clear that Darwin did recognize the value of animals for experimental purposes, but his testimony is important for what it reveals about Darwin and his ability to speak off the cuff. His series of short answers are not the responses we would expect from a firebrand. This is consistent with his refusals to speak at meetngs. He used to present papers to the Geological Society in his younger days but these would make him quite ill. Here is an issue about which he felt real compassion and his public testimony was rambled and short. This is not meant as a criticism of Darwin. It is just good that he did not have to go on the lecture circuit and defend evolution by natural selection! INDIANA ACADEMY OF SCIENCE

The controversy on animal rights erupted again for Darwin just a year before his death. A letter he had written to Frithiof Holmgren a Professor of Physiology in Upsala, Sweden was published in the Times and prompted a rebuttal by a Miss Frances Power Cobbe. This in turn forced Darwin to respond and try to rebut her rebuttal point by point. Indeed, Darwin continued private correspondence about vivisection until a few weeks before his death in 1882 (Darwin 1903).

Why did Darwin feel such compassion for the suffering of animals? What caused this conversion of a man who years earlier hunted birds for enjoyment? Ronald W. Clark (1984) in his book, *The Survival of Charles Darwin*, claims that evolution gave animals a new place in nature. No longer did man have dominion over creation. Clark maintains that Darwin's views of animals may be linked to his loss of religious faith. The link between Darwin's views on animal suffering and religion can be found in his autobiography (Barlow 1958:90) where he wrote, "A being so powerful and so full of knowledge as a God who could create the universe, is to our finite minds omnipotent and omniscient, and it revolts our understanding to suppose that his benevolence is not unbounded, for what advantage can there be in the sufferings of millions of the lower animals throughout almost endless time?"

Darwin's compassion for animal suffering, however, predates his loss of religious faith. Indeed, it is possible that his recognition of suffering in nature led him to the mechanistic frame of mind that allowed him to formulate evolution by natural selection.

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