FAITH AND THOUGHT

1981
Vol. 108
No. 3

A Journal devoted to the study of the inter-relation of the Christian Revelation and modern research

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ANIMALS IN MAN'S SERVICE

The authors consider the current debate on the use of animals for food and experimentation in the light of biblical teaching.

According to the Bible man was given dominion over nature (Gen. 1:26,28; Ps. 8:6). What is the meaning of this teaching? The subject is of considerable importance, since some argue that the 'dominion' doctrine is responsible for the present ecological crisis[1,2], though others have refuted this suggestion.[3,4] Our attitude to animals may well reflect our attitude to the environment.

Creation Theology

Our view of the relationship between the animal world and man will depend on a correct 'exegesis' of creation theology. The created order owes its present existence not to just one creative act of God in the past, but to His *continual upholding* of nature (Col. 1:17, Heb. 1:3; Rev. 4:11b; ICor. 8:6; Job 12:10). Thus He is not unconcerned with what man does with His world. Deists from the late 19th century thought of God as one who had created only in the past. The Created order then continued to run like a clockwork toy which was in some senses independent of its Maker. As a result some thought that God was so far removed from creation that He was either impotent to deal with man if man exploited or damaged the world, or that He was unconcerned. Although God did indeed 'rest' from creating (Gen. 2:2,3; Psalm 102:25) this cannot be taken to mean that He is no longer involved with His world. The Christian God continues to uphold the whole of reality; He is the Creator/ Sustainer.

Christ's use of the analogy of His Father being an 'absentee landlord' (Matt.21:33; 25:14f; Luke 12:35f etc.) makes the point that His Father is judge and will call his servants/tenants to account. The landlord/tenant image is useful since it conveys the idea that we can use God's world as his tenants by studying it and applying our findings to great benefit; this, however, gives us no excuse to exploit nature since we are accountable to the landlord. Moreover, the lack of use of resources to avert ecological disaster or to improve the welfare of animals and man is to ignore our duty as God's tenants (Gen. 1:26,28; and c.f. Matt. 25:14f).

Historical Roots of Animal Welfare Attitudes

A study of the history of attitudes to animal welfare will illuminate current outlooks and practices. Attitudes to animals and the man/nature relationship change over the years depending on man's changing views on ultimate reality. C.W. Hume in 1957 argued that neo-platonic attitudes to animals lowered their status and as a result of these views on the capacities of animals (e.g. their inability to rationalize or communicate by language) a less 'neighbourly' practice toward them prevailed.[5] In the middle ages there were two major schools of thought regarding animals. The Franciscan view held them in high regard (see also White[1]) whereas Thomas Aquinas' views led to the conclusion that there was no way of distinguishing them from machines. They only moved "through sense and appetite... so that the body is perfected with powers directed to its being moved rather than with powers of moving."[6] Hume indicates that Cartesian attitudes which were heavily influenced by Thomist philosophy led to horrifying practices. People "..dissected dogs without pity to observe the circulation of the blood" and animal screams were "...simply the creaking of the gearing and the turnspit."[5a] Thus historically, rationalistic ideas tended to lead to practices detrimental to animal welfare.

Animal Ethics and World Views

If we compare Christianity with other world views we see different approaches to such concepts as pain and cruelty (e.g. pain can be 'illusion' or 'maya', the Will of Allah etc.). A pantheistic view of reality will have problems in fighting against pain, cruelty and injustice since ultimately these things are only part of the reality which is 'god' in the pantheistic sense. Albert Camus' book "The Plague" has a similar tension as pointed out by Schaeffer.[7] In Islam there is a degree of fatalism where if an animal or even a human being is suffering "It is the Will of Allah" is a frequent reaction and little may be done to help. Berry points out that primitive mysticism is prevalent in many arguments where nature is defended by invoking spiritual capacities within 'her'.[8]

Thus there are several views of man's relationship to nature. We would argue that the Christian world view does give a sufficient basis for responsibility. To gain a biblical balance Schaeffer's analysis is useful here.[9] To answer the question of man's relation to, and yet distinction from, animals we need to go back to medieval theology to see how an unbiblical emphasis on man's relationship to nature gave rise to problems:[5,9]

INFINITE	PERSONAL
GOD	GOD
	Man
Gulf	
Man	Gulf
Animals	Animals
Plants	Plants
Machines	Machines

Theologically, man was viewed by medieval theologians as *separate* from nature and the right hand side of the diagram was emphasized.[9] This led to the problems discussed by Schaeffer but here we note that this led to a detrimental attitude to animal welfare.[5,9] Later in history, Darwin and others, maybe partly as a reaction to this emphasis on the separation of man from nature, re-emphasized the left hand side of the diagram. Clearly man is related to animals, but the reaction of the established church was antagonistic. This is understandable since this re-emphasis seemed to lead to the erroneous conclusion that man was *only* an animal, (albeit complex) and much worse, that it appeared to do away with God. There was no-one above the gulf. The church's insistence on man's separation of man from animals (e.g. by arguing that animals have no intellect or language, no soul or awareness of God) gave rationalistic thinkers the excuse to reject the churches stance since it tended to ignore that man *is* an animal. The agreement that man is an animal in no way allows the 'thin-end-of-the-wedg-' to come in; it merely recognises the apparent.[10] Man, if looked upon *from the point of view of finiteness* is in the same position as animals; he is totally different from God. But if we look at him from the point of view of his *personality*, the Bible makes it clear that he is distinct from the rest of creation by virtue of his being made in the image of God (Gen. 1:26a).

The implications of this for animal welfare are that on the one hand we do not fall into the trap of treating animals as though they are essentially the same as human beings; on the other hand, we treat animals as though they have a capacity to feel pain and we know that we should not exploit them (see also under 'The assessment of pain/stress' below).

Given this broad outline of animal ethics, are there any specific Biblical guidelines for us to follow? (i.e. are animals mentioned directly?) Like many areas of ethics it is an attitude of mind that affects how the Christian should act since we are not told many things explicitly. However, the following points are

worthy of menion and implicit in Christian thinking is the abhorrence of both cruelty and exploitation.

Animal Theology

(a) Sabbath Law applied to animals as well as human beings (Exod. 20:10) and Ninevah's salvation applied to 'much cattle' as well as man (Jonah 4:11). To the Jew salvation meant much more than just 'spiritual' salvation — it included land and animals as well.

(b) Solomon's wisdom recognized that cruelty to animals was a trait of the foolish (Prov. 12:10). (c.f. Balaam's foolishness! Num. 22:21f).

(c) Jesus himself noted cruelty to animals (Luke 14:5; 13:15) and he could well have used the sight of labouring oxen in front of him and his hearers as a vivid illustration of his compassion (Matt. 11:30). However, when he spoke of dogs in the New Testament, the cultural setting needs to be remembered; they were scavengers in Christ's Palestine (Matt. 15:26; Isa. 56:10; I Kings 4:11; Psalm 22:16) or occasionally used to protect flocks (Job 30:1).

(d) Animals are rarely mentioned in Old Testament Law except when relating to sacrifice. Negligence of owners of animals is mentioned (Exodus 21). Also a kid was not to be cooked in it's mother's milk (presumably to counteract a particularly insensitive practice! Exod. 23:19). Oxen were not to be muzzled when treading out the corn (Deut. 25:4) and Paul's use of this (ICor. 9:9) to defend his rights as an apostle does not abrogate the literal as some have argued.[11] If the young were found in a nest the young could be taken but the mother was to be set free (Deut. 22:6,7).

(e) Predators were to be controlled. Wolves, lions and bears etc. are frequently mentioned in God's word and David's protection of his flocks is well known (I Sam. 17:36; see also Matt. 10:16; John 10:12; Habbakuk 1:8). The lion is said to seek his meat from God (Psalm 104:21).[12]

TABLE 1. The Average Protein content of raw foods (In g/100g)

Animal source		Plant source	
Cheese, cheddar	26	Soya bean	40
Beef	17	Peanuts	24
Eggs	12	Cereals	10
Milk, cows	3	Potatoes	2

The Necessity of Using Animals for Food

God's covenant with Noah allowed him to eat meat provided it did not contain its lifeblood (Gen. 9:3). Gen 1:29 may indicate that man originally received his protein from plant sources and that animals were herbivores before the Fall (Gen. 1:30). But vegetarianism was not necessarily God's original pattern (see Ps.104:21) and Ref.12).

Paul underlined the personal nature of decision for or against vegetarianism (Rom. 14:1-3). He also instructs Timothy to beware of hypocrisy in teachings on abstinence from certain foods (1 Tim 4:3). Such teachings are abundant today in various food 'cults' and 'fads'.

Wealthy countries are by no means efficient in producing protein from animal sources, even though they resort to factory farming techniques which have come in for much criticism on moral grounds. An example of this inefficiency is the fact that at least 10lbs. of feed protein is used in the production of 1 lb. of beef protein.[14] Various commentators have suggested that by the turn of the century the Western diet will be heavily dependent on sources of protein other than those from animals.[14a,15] Over the next twenty years, it is unlikely that livestock will disappear completely from the rural scene. By grazing on otherwise unproductive land and feeding on waste products from vegetables which are indigestible by man, they may still play a minor role in food production — meat on special occasions will probably still be a fact of life in Western cultures for a long time. It seems, however, that high yield mass production of meat and animal products will eventually disappear.

At present, about a third of the protein in the average British diet comes from plant origins such as legumes, cereals and root vegetables.[16] Such sources compare favourably with those from animals in the proportion by weight of protein they contain (See Table 1 above). The biggest problem with protein obtained from plant sources is that the overall proportions of amino-acids in any single food differ from those that man requires. Hence food technologists are beginning to juggle with various mixtures of vegetable proteins as well as textures, flavours and shapes in order to arrive at products which are commercially viable, acceptable to Western palates and nutritionally balanced. When man learns to live with the greater part of his protein food obtained from plants, the inefficient use and sometimes moral abuse of animals will cease on economic grounds if no other! A telling fact in this inefficiency lies in the possible use of one acre of prime arable land. Supporting beef cattle, it can supply a man's protein needs for 77 days; however, if the same land were planted with a soyabean crop it would supply a man with protein for 2,224 days.[17]

Pain in animals

The pioneers of science in the sixteenth and seventeenth centuries felt that in some way they brought about a reversal of the fall of man. Francis Bacon wrote, "Man by the fall fell at the same time from his state of innocence and from his dominion over nature. Both of these losses, however, can even in this life be in some part repaired; the former by religion and faith, the latter by the arts and sciences."[18] As we have said above, animal pain is not explicitly dealt with in scripture, but the picture of man as steward of God's creation would indicate that the infliction of avoidable pain is not inexcusable. "It is the infliction of avoidable pain which is morally reprehensible...a lion disembowelling an antelope may cause far more suffering than the ill-aimed shot of the hunter, but only the hunter can be accused of cruelty."[19] Thus avoidable pain is clearly a category which must be seen to be dealt with in both law and practice. It is argued here that *if in the long term* pain and suffering in man and animals may be avoided by the use of animals in research, then we have a precedent, perhaps even a duty, to use them if no other alternative is appropriate or available.

The assessment of pain and stress in animals

If research is to be justified, then the assessment of pain and stress in animals is of crucial importance. Studies of the physiology, anatomy and ethology of animals will illuminate this area. The activity within the peripheral nerve is the beginning of a chain of events which is a pre-requisite for the perception of pain, but it is not in itself an indication of pain perception.[20] Also the removal of the cerebral hemisphere does not remove unconditional responses which are often taken as indications of pain perception (e.g. dilation of pupil, increase in heart rate, blood pressure, respiration etc.).[20] The brainstem reticular formation can alter cerebral receptivity and the finding that the placebo effect may involve the release of endogenous peptides could well be related to this phenomenon.[21] Thus care must be taken in the assessment of pain and stress in animals from a purely 'observational' viewpoint. Thorpe has pointed out two further pitfalls: "The first is the error of supposing that domestic animals in their feelings and anxieties are essentially like human beings: the second is the equally serious error of assuming that they are mere insentient automata."[22] Animals must be given the benefit of the doubt in cases of uncertainty, but the commonsense belief that animals do feel pain of a similar nature to man is corroborated by the evidence of similar pain pathways in animals and man.[22,23]

Do Animals have Rights?

Animal rights have been invoked to argue for the abolition of all vivisection which removes the right of an animal to live.[24] Historically some have thought that animals could even have the 'right' to representation in law.[25] Rights are defined and conferred by the existence of laws and since animals are protected by several laws then in a sense they do possess 'rights'.[26] But to confuse the right of an animal to live with its rights under law is to misunderstand the status of animals. As we have argued the dominion of man gives him the freedom to use animals in his service, with the limitation of responsibility to the God who made them. The notion of an animal's rights to live brings problems when we consider the limitations that man must put on animals in some situations. For example is the right of a predator to kill to live upheld in *all* situations? Clearly, the right to live of a rogue tiger would not be considered on a par with that of a threatened human being (see Genesis 9:5). Additionally there is unavoidable denial of the right to live of animals in many situations such as in the day to day predator/prey situations, natural disasters etc. One suggestion, is to treat animals *as if* they possessed rights, made in an excellent report of a working committee on animal ethics.[19a] However, the rights of animals only have a sufficient basis within the Christian framework which involves the characteristic of care and respect for a part of God's creation.

Alternatives to Animal Experiments

There is a growing feeling in society that alternatives to animal experimentation should be used wherever possible. The reasoning may be economic as well as moral; there can be no doubt that animal research is costly. However, the debate centres upon what constitutes an acceptable alternative. Some anti-vivisectionist organisations take the view that *no* animal experiments are necessary.[24,27] At the other extreme, some advocate that no alternatives are possible or even needed.

It is likely that the majority view lies somewhere between these two extremes. The late Prof. Smyth's book covers a wide range of alternatives summarized by his three 'R's'; Reduction, replacement and refinement.[27] Sadly, many people's ideas that computers and synthetic models can totally replace animals have little foundation in reality. Tissue culture and other in vitro systems can provide better alternatives in many cases and are already in wide use. However, these only allow limited information to be obtained about whole body physiology and the full systemic effects of drugs. Furthermore it is a legal requirement for safety reasons

that drugs be tested in the whole animal.[26] It would be wrong, however, to assume that we can never replace animals in a given field of study.[28]

One positive approach to the problem might be to reduce the number of animals used for experimentation by cutting down 'wastage'. Wastage can be caused by poor or inappropriate choice of experiments. A lack of knowledge of the literature combined with the pressure of career advancement can mean that duplication of experiments, far above that required by the normal processes of scientific validation, can occur. A better knowledge and selection of statistical methods could also reduce the number of experiments in some cases.[29]

A demonstration of the strength of public feeling on the abuse of animals is the growth of sales cosmetics made by companies such as "Oriflame" who produce items containing 'no animal products'. This increase in public pressure is obviously going to be an important force in making the scientific business world consider alternatives. Every Christian involved with research must feel the obligation to be highly aware of all the paths open to him.

Does the Law Need Changing?

The law relating to animal experimentation has been criticized for its outdated stance and two bills recently before Parliament sought to update legislation;[30] the EEC is also reviewing the situation.[31] Anomalies in the present law arise since animals that evoke more 'emotional' appeal are better covered by the law. This ambivalent attitude has led to the requirement of special certificates to work on horses, dogs, cats and lately primates, whereas some invertebrates which clearly have a highly advanced nervous sytem and pain mechanisms (e.g. Cephalopods) are outside the scope of the law.

Many experiments that fall within the category of experiments without anaesthesia (Certificate A under the 1876 cruelty to animals act) include such minor changes as alteration of diet etc. Thus disagreements over the statistics of animals involved in painful experiments is common.[32] A wider and more detailed knowledge of experimental procedures would be extremely advantageous for two reasons: (a) To give those not involved in research an *accurate* picture of laboratory practice; (b) To help those involved in animal research to be aware of their moral responsibility to justify their research.[29]

The irresponsibility of the media does not help here. Cases of scientists 'torturing' animals are exaggerated and emotionalism can often lead to entirely unfounded accusations and abuse directed at scientists, as Lord Halsbury's committee has reported.[33] The

occurrence of attacks on research establishments does not further the case for amending the present law,[34] but equally attitudes from those in science to the effect of "Leave us alone, you're all ignorant" also damages informed and rational discussion.

We would argue that society cannot be ambivalent in its attitudes where the demand for newer and safer drugs is pitted against the lobby to reduce the number of animals used in research. This 'consumerism' is taken to task by Shuster.[35] However, it should be recognized that there are criticisms of some aspects of current practice such as the LD50 test.[36] The Carpenter report referred to earlier puts it thus: "There should be legal control over the proliferation arising from commercial competition of products which require testing on animals."[19a]

Anti-Science Attitudes

The wider implications of the anti-vivisectionist lobby are also of interest to the Christian. It could be argued that along with disquiet in areas such as genetic engineering and the nuclear power arena, anti-vivisection is a symptom of a general anti-science feeling in society. There is a general distrust of scientists, particularly those engaged in areas of technology that affect man's environment and well-being directly. However, the scientific enterprise frew out of a liberating effect of Biblical theism in society [37,38,39] (*pace* Tonybee[40]) and thus the scientific method of studying God's world has no threats to man *as man* as is commonly feared. This fear stems from the misconception that man is only an accident in a hostile universe and that he is *only* an animal or a machine. There has been much written about the decline of modern science in the western world[18,41,42 &18a] and for the Christian, the anti-science feeling makes his task of communication all the more difficult. He is to affirm that man does have meaning in God's world through Christ's redemption and he is also to affirm that the Scientific enterprise, instead of threatening man, is a method of applying our minds constructively to subdue God's world (Gen. 1:26,28; Psalm 111: 10). This we can do responsibly and reverently provided we recognize that we live in a world that is contingent upon the Creator/Sustainer God described in the Bible.

In conclusion, from a biblical point of view, it seems clear that the Christian needs to think through and communicate the implications of the relationship between man and animals. Considering the controversial nature of the use of animals in research and food, there is surprisingly little written on this subject from a Christian perspective. The biblical concept of dominion *and* responsibility to the Creator-God gives as a way forward in this issue.

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* *This paper was prepared jointly by members of the Research Scientists' Christian Fellowship at Southampton University and was intended to form a basis of discussion at the 1980 RSCF Conference on the relationship between animals and men, held on 26 September, 1980. It is published by permission. In addition to Mr. Carling, Rosie Diggins, Paul Dorey, Fran Fullerton, Nick Goulding, Christopher Herbert, Norman Spibey and William Worraker participated in the preparation of the MS.*