The following bibliography contains written works of interest to scholars studying the relationship between animals and religion. When available, abstracts have been included. However, inclusion of an abstract should not be taken as an indicator of the importance of the work. Significant portions of this bibliography were contributed by Paul Waldau, Laura Hobgood-Oster, Barbara Darling-Smith, and Donna Yarri. Any comments, additions, or suggestions are most welcome and can be addressed to Forrest Clingerman, forrest-clingerman@uiowa.edu.

A short editorial on the Supreme Court Santeria case in Florida.


Utilization of animal wildlife and their by-products by farmers in Nigeria, as confirmed by this survey, is for cultural and religious ceremonies and traditional medicine. The pattern of consumption of wild animals depends on what species are available in different ecological zones. In traditional medicine, some wildlife by-products are acceptable nation-wide, while in religion, farmers are very selective - especially the Muslims. Culturally, utilization is largely by tribal and ethnic background. In the installation of traditional rulers and in performing traditional rites, some specific wild animals and their by-products must be sacrificed. Wild animals are so vital to the rural people that adequate consideration must be given to maintaining wildlife habitats when rural development projects are planned. This is especially important when these projects involve major land-use changes or modification of traditional agricultural practices. Much of the small mammal, bird, and reptile, habitat is comprised of small wild patches, marshes, or narrow riparian strips, which can easily be destroyed by short-sighted activities. This wildlife is a valuable renewable resource which can continue to produce benefits only if adequate habitats and protection are available.


The concept of animal rights and the difficulty of defining it is examined. The positions of the leading thinkers of the animal rights movement are reviewed. Neither the criteria of 'the ability to suffer' or 'being the subject
of a life' are found satisfactory. Christian thinkers in this area often do not use the concept of rights, but the position of Andrew Linzey, who does so, is criticised. It is argued that a broader and more soundly established Christian approach in terms of responsibilities for and duties to animals and to the whole creation is much more satisfactory. The term animal rights is best abandoned in favour of these other concepts. A brief outline is given of a Christian approach.


Part of a Mémorial Jean Carmignac. Qumrâniennes, edited by Florentino García Martínez and Êmile Puech.


"Whether writing for a term paper, looking up organizations involving animal rights, or researching information as an animal lover, this is a resource chock full of information on animal rights and welfare. Coverage of issues, controversies, significant historical figures, and ideologies related to the treatment of animals are comprehensive. The essays cover a wide spectrum from the founding of the ASPCA and trapping, to religion and animals. The directory of organizations serves practical purposes, such as where to obtain a three-dimensional model of the frog for educators and both high school and college students".--"Outstanding Reference Sources : the 1999 Selection of New Titles", American Libraries, May 1999. Comp. by the Reference Sources Committee, RUSA, ALA.


Not theodicy, including John Hick's, makes adequate sense of animal pain. Hick fails at the point that he enlists animal pain exclusively in the service of human soul growth. Frederick Ferré is correct to point out that this solution is too anthropocentric. The present theodicy avoids this mistake by showing that pain, from the amoeba's to our own, is crucial not only to the betterment of souls but to their very origination, a process beginning long before man evolved on the planet. Creation is the process by which God is multiplying his own experience, and this process necessarily requires eons, necessarily starts with the lowest forms of life, and necessarily entails pain and suffering. The resulting good justifies all the howls and lamentations of the planet from its inception.


The history of the relationship between humans and their companion animals is long and more than a little complex. This is in large part due to the special status of these animals. Over the years these animals have evolved socially from that of an impersonal "object" to a "subject," i.e. a sentient being with a recognized mental and emotional life.(1) Histories of this change in relationship are rare. This is due mainly to a lack of source material; little is available and what there is is rarely reflective of a general population. Recently, records of a 1796 English dog tax have become available and they provide a fairly complete overview of the status of the dog as a companion animal in late eighteenth-century London. The evidence indicates the dog was very popular as a companion animal in late eighteenth-century English urban society. While some of these creatures were former working-class canines others were what might be described as "professional companion animals" i.e. creatures who had no previous work history. The tax records further indicate that concern as to specific breed was still in the future.(2) Dogs often received a generic title such as "yard dog" or "lapdog" or "housedog." What is particularly interesting from these records is the number of mixed breed creatures-animals with the title of either "mongrel" or "curr" (At least three Londoners kept foxes as pets.) There is also an almost total absence of kennels of hunting dogs in eighteenth-century London. Other historical records suggest this to be a recent phenomenon. Lastly, this outline appears to correlate strongly with the literary remarks, material accoutrements, and even religious practices of the late eighteenth-century urban dog population of England.


Roderick Nash's conclusion in Wilderness and the American Mind that St. Francis "stood alone in a posture of humility and respect before the natural world" is not supported by a thorough analysis of monastic literature. Rather St. Francis stands at the end of a thousand-year monastic tradition. Investigation of the "histories" and sayings of the desert fathers produces frequent references to the environment, particularly to wildlife. In stories about lions, wolves, antelopes, and other animals, the monks sometimes exercise spiritual powers over animals, but frequently the relationship is reciprocal: the monks provide for the animals and the animals provide for the monks. This literature personifies wild animals and portrays them as possessing Christian virtues. The desert monk is portrayed as the "new Adam" living at peace with creation. Some of the literature is anti-urban, with the city treated as a place of sin, the desert a place of purification. The wilderness functions much as a monks cell, providing freedom from worldly concerns and a solitary place for prayer and contemplation. The monks' relationship to the desert is evidence of their spiritual progress.


Do animals have moral rights? In contrast to the philosophical gurus of the animal rights movement, whose opinion has held moral sway in recent years, Peter Carruthers here claims that they do not. He explores a variety of moral theories, arguing that animals lack direct moral significance. This provocative but judiciously argued book will appeal to all those interested in animal rights, whatever their initial standpoint. It will also serve as a lively introduction to ethics, demonstrating why theoretical issues in ethics actually matter.


Includes excepts of author's Le Bestiare du Christ: The Mysterious Symbolism of Jesus (Desclée, de Brouwer, et Cie., 1940).


Predicting the response to xenotransplantation is difficult, but can be based upon (i) past clinical experience, (ii) opinion surveys and focus groups, (iii) predictable variables, and (iv) the allotransplant experience. Baby Fae, the Pittsburgh baboon liver transplants, and the Jeff Getty baboon marrow transplant have taught us (a) not to underestimate hurdles, (b) to communicate professionally, (c) not to promise too much, (d) that lobbying can be effective, (e) that "being the first" is important, and (f) that the media can be fickle. The Swedish islet cell and the U.S. neural tissue transplants suggest that patients without immediately life-threatening illnesses will accept xenogeneic tissue and that the public/media will not respond negatively when there is little fanfare. Limited opinion surveys/focus groups suggest a degree of reluctance/revulsion that is more common in women, minorities, and the less-educated, and when the likely donor is a subhuman primate. Predictable positive public-response variables include perceptions of (a) adequacy of the scientific base, (b) adherence to globally agreed upon guidelines, (c) legitimacy/competence of regulatory bodies, and (d) adequate infectious risk assessment and management. A likely negative predictor is the role of animal rights activists (more in Europe, less in the U.S. and the developing world). Less predictable is the response of the media and what other societal concerns dominate the news at the time. Cultural concerns will need careful study. Allotransplant experience suggests that informed religious opinion can be accommodating to new technology. Psychological factors will be important and will need professional management.


To take up this question in a way that might lead to fruitful discussion, we must begin with some careful definitions and distinctions. The fundamental distinction to be made is between what is ordinarily referred to as the ideal or normative idea of sacrifice, and the phenomenological or descriptive idea of sacrifice. Of similar importance will be a self-critical awareness of what voice is speaking, and from what knowledge and experience that voice is speaking, and a sensitive awareness of how that voice differ from other voices.


Table of contents from the publisher:
1. A short primer on animal ethics
2. The coherence model of ethical justification
3. Animals' moral status and the issue of equal consideration
4. Motivation and methods for studying animal minds
5. Feelings
6. Desires and beliefs
7. Self-awareness, language, moral agency, and autonomy
8. The basics of well-being across species


Four hundred and ninety-five people completed a questionnaire in which they rated 35 specific examples of uses of different species of animals on a 5-point scale of acceptability-unacceptability. Ratings depended on both the particular example used (medical research, behavioral research, product-testing research, use for educational purposes, use for luxury garments, or animals as pests) and the species involved. Examples using dogs, cats, or monkeys were rated less acceptable than those using rats or mice, nonmammalian vertebrates, or invertebrates. Examples in which animals were used to make luxury garments were rated the most unacceptable and educational uses of animals and behavioral research were the most acceptable. Ratings of examples were very consistent within individuals, leading to the conclusion that a person's attitude toward animals may represent a unitary characteristic. Gender, age, pet ownership, and religious affiliation were all significantly related to attitude toward animals, as determined by averaging responses to the 35 examples together for each respondent, but all of these variables combined accounted for less than 5% of the variability in ratings.


Recent improvements in the welfare and moral status of animals are commonly perceived as resulting from secular, rather than Christian, teaching. To investigate whether this is currently the case, questionnaires were sent to Christian ministerial training courses and to university departments of philosophy. Responses to items common to both indicate that while secular courses attend to animal issues more frequently and rigorously, ministerial courses are increasingly including them. The findings would also suggest that Christian teaching is affording a higher status to animals than has traditionally been the case. (C) 2001 International Society for Anthrozoology.


Whaling has a long history of depleting successive stocks and the whale has become a symbol of our mishandling of environmental matters in general. The biblical foundation for man's dominion of nature should be the source of a sound conservation ethic. It implies responsible stewardship, including the taking of no more than sustainable harvests. In the case of the whales this has not happened, through ignorance and greed. The problem of whether or not whales are 'intelligent' is left open; but they are not made in the image of God as in man, and are not his equal. Certain Artic communities are dependent on whales for their subsistence, with no reasonable alternatives available, while some other coastal villagers have a long whaling tradition, so that its prohibition causes them hardship. We need to be more responsive to these human needs.


   Analysis of the presence of the royal eagle as a religious symbol of the Mexican population, through the universal symbolism of the eagle. It begins by the representation of the meaning of animals in primitive man's mind; particularly, the symbolism of the eagle as a solar and initiatory animal. It shows how the royal eagle has embodied the essential values which are the domination of other populations and death representing the sacrifice man makes of himself to nourish his own blood's gods. It also underlines the presence of the eagle in the cosmogonic myths and in the history of the pilgrimage, and it analyzes the main symbols of Mexico-Tenochtitlan's foundation, among which the eagle stands out.


   Out of the multitude of mediaeval man-animal relationships a number of aspects is presented. Apart from the role of the horse in Germanic cult sacrifices and the importance of domestic animals for the agrarian society, the Christian attitude towards animals is described. The integration of animals as religious symbolic figures in Christian iconography and literature, trials against animals, the importance of tournament sports and hunting for the aristocracy, have been considered as well as the hippiatry of the court equerries, the equestrian medical practices of the blacksmiths, the possibilities of mediaeval veterinary medicine in the treatment of sick cattle and the use of animal products in medicine. Further chapters are dedicated to the nutrition of the mediaeval population and related problems of hygiene, to the introduction of meat inspections and to parasitoses because of food intake.


   Some aspects of mediaeval human-animal relationships are presented. In addition to the role of the horse in Germanic cult sacrifices and the significance of domestic animals for the agricultural society of the Middle Ages, the attitude of Christianity to animals is also described. The integration of animals as religious symbolic figures in christian iconography and literature, trials against animals, the importance of tournament sports and hunting for the aristocracy are considered as well as the hippiatry of the court equerries, the equestrian medical practices of the blacksmiths, the possibilities of mediaeval veterinary medicine in the treatment of sick cattle and the use of animal products in medicine. Further sections are dedicated to the nutrition of the mediaeval population and related problems of hygiene, to the introduction of meat inspections and to parasitic disease from food.


   The relationship between human and bovine population in India has hitherto been widely regarded as an important example of resource mismanagement under the influence of religious doctrine. It is suggested that insufficient attention has been paid to such positive-functioned features of the Hindu cattle complex as traction power and milk, dung, beef and hide production in relationship to the costs of ecologically viable alternatives. In general, the exploitation of cattle resources proceeds in such a way as not to impair the survival and economic well-being of the human population. The relationship between the human and bovine population is symbiotic rather than competitive; more traction animals than are presently available are needed for carrying out essential agricultural tasks. Under existing techno-environmental conditions, a relatively high ratio of cattle to humans is ecologically unavoidable. This does not mean, that with altered techno-environmental conditions, new and more efficient food energy systems cannot be evolved.


I used a qualitative research approach to investigate psychological aspects of involvement in the animal rights movement. Interviews were conducted with 23 rank-and-file activists, focusing on cognitive and emotional aspects of involvement with the movement, concomitant lifestyle changes, effects on interpersonal relations, and the happiness and well-being of the participants. Three main themes emerged from these interviews. First, there was a surprising degree of diversity in attitudes and behavior of the activists. Second, animal rights activism usually entailed major changes in lifestyle; almost all interviewees strove to achieve consistency between their ideals and their actions. Third, there were several parallels between an involvement with the animal rights movement and religious conversion. The potential for increased communication between the animal protection and scientific communities is discussed.


The papers contained in this booklet were first delivered at a conference jointly sponsored by the Church and Nation Committee of the Church of Scotland and Edinburgh University's Centre for Theology and Public Issues on 'The Animal Kingdom and the Kingdom of God,' in New College on 8th June 1991.


Ecofeminism refers to feminist theory and activism informed by ecology. Ecofeminism is concerned with connections between the domination of women and the domination of nature. Although ecofeminism is a diverse movement, ecofeminist theorists share the presuppositions that social transformation is necessary for ecological survival, that intellectual transformation of dominant modes of thought must accompany social transformation, that nature teaches nondualistic and nonhierarchial systems of relation that are models for social transformation of values, and that human and cultural diversity are values in social transformation. Ecofeminist theology, ethics, and religious perspectives are particularly concerned with the integration of science and religion. Examples of religious or spiritual ecofeminism, are North American Christian ecofeminism, North American womanist Christian theology, neopagan Wiccan ecofeminism, Native American ecofeminism, and Third World ecofeminism.


   This is a critical look at the question of design from a feminist theological perspective. The author analyzes James Moore's 1995 Zygon article, "Cosmology and Theology: The Reemergence of Patriarchy." Then she looks at the relationship between science and religion from a feminist perspective, focusing on the kyriarchal nature of theology itself in light of the myriad power issues at hand. Finally, she suggests that, instead of pondering the notion of design, scientists and theologians might more fruitfully look for new ground for dialogue since feminist scholars are asking very different questions, not just answering questions differently.


   The burnt sacrifice of bare (defleshed) bones, described in Homer's Odyssey and well documented from Archaic and Classical Greece, is now clearly attested by burnt faunal remains from the 'Palace of Nestor' at Mycenaean Pylos. This evidence is of great importance for understanding both the historical role of sacrifice in Greek religion and the significance of feasting in Mycenaean palatial society.


   The article surveys the development of legislation to the slaughtering of warm-blooded animals in Germany since 1933. It examines the ritual slaughtering of the Jews (Schechita) on the one hand, and of the Moslems (Dabh) on the other hand. While 1933 the legislation was coined by the political situation, after 1949, legal setting and decisions reflected the changing sensibility to animals' protection. Before 1945, Schechita was the matter of legal dispute, more recently, the discussion has centred on the ritual slaughtering of the Moslems, with different arguments. The "Law on the Slaughtering of Animals" of 21-04-33 was part and parcel of the Third Reich's policy against Jews implicating a nation wide practical inhibition of Schechita by decreeing a general obligation of stunning before slaughtering. In 1945, the inhibition of Schechita became invalid after the occupation of the Reich by the Allied Forces. For the first time, the "First Amendment to the Animal Protection Law" of 1986 permitted ritual slaughtering by the way of exception as long as it was covered by the religious obligations. In 1995 the Federal Administrative Court judged that an inhibition of the ritual slaughtering by Moslems could be possible, because there are no religious obligations for Moslems. Nowadays, the ritual slaughtering of the Moslems is, de facto, forbidden, Schechita is performed in some cities for the needs of the residential Jewish population.


Referring to an 1865 edition of the Bible, the article deals with domestic animals and veterinary matters in the sacred book of Christianity, singling out donkey, camel, horse, sheep, goat, pig, dog and cat. Comments on early aspects of animal welfare and food hygiene round off the picture.


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No other religion has so many dietary regulations as the Jewish. Jewish regulations include general rules and specific ones concerning selection of raw material for foods, slaughtering of animals, preparation and consumption of food, use of certain utensils, as well as rules for diets on certain days such as sabbath or feast days. In contrast to what has been frequently claimed, these rules are not merely of hygienic nature and derived from the experience and needs of people living in a warm climate, for whom they are a kind of consumer protection. According to theologians, the background of the rules is exclusively religious.


The papers contained in this booklet were first delivered at a conference jointly sponsored by the Church and Nation Committee of the Church of Scotland and Edinburgh University's Centre for Theology and Public Issues on 'The Animal Kingdom and the Kingdom of God,' in New College on 8th June 1991.


The public attitude to animal use in Australia and New Zealand can be inferred from survey results and political activity. The public is concerned about the rights of animals as far as any uses causing pain are concerned, but takes a more utilitarian view of the taking of life where no suffering is involved. Many of the participants in two recent ANZCCART conferences fall short in their knowledge of and attitude toward these concerns. Animal welfare legislation and standards need to be reformed so that painful animal use is eliminated, even if economic growth suffers as a result.


The papers contained in this booklet were first delivered at a conference jointly sponsored by the Church and Nation Committee of the Church of Scotland and Edinburgh University's Centre for Theology and Public Issues on 'The Animal Kingdom and the Kingdom of God,' in New College on 8th June 1991.


This paper intersects two recent trends in social movement research: rediscovery of the centrality of both ideology and religion to understanding social movements. Using two recent national surveys, we assess the extent to which three religious beliefs and one religiously linked belief are related to ideological support for the animal rights movement in the general public. among both women and men, the belief that God is in nature and a religiously linked opposition to science facilitate support for animal rights, counteracting the negative impact of greater church attendance. However, biblical literalism and a "gracious" image of God have little effect on acceptance of animal rights. We conclude by considering implications of these results for subsequent research on religion and ideological support for social movements.


The first legislation in the world, designed to protect animals used in research, was passed in England in 1876, and is still in force today. It is one of the strictest in Europe. At the same period, France had no such law, and was the
country conducting the greatest amount of animal experimentation. Comparing, these two countries, in the middle of the 19th century, can account for this difference. The most important difference seems to be related to the theological question: are animals endowed with a soul? Saint Augustine, claimed, in the 4th century, perhaps because of an experiment with the centipede, that animals do not have a soul. In the 17th century, Rene Descartes, using a different philosophical system, reached a similar conclusion, in France. On the other hand, under the influence of Charles Darwin, England rejected the Roman Catholic conclusion, about the soul of animals. The industrial revolution, occurring earlier in England than in France, also changed the society, developing urban areas, where people were cut off from rural life and changing human relationships with animals. The industrial revolution enabled the development of the press, giving impetus to public opinion. These facts, combined with a caution of science, which was more developed in England than in France, brought about the first important "anti-doctor" campaign.


This paper questions the extent of the 'cultural mandate' given in Genesis. How far does the authority granted to us extend? With the emergence of new biotechnologies that deal with reproduction come new questions of what science should and should not do. These questions are of added concern because techniques for human medicine are first developed in animal laboratories. It is suggested that new technologies should be developed for use in laboratory and domestic animals since they can benefit humankind, but that more restraint and prayerful consideration of each technological advance should be made before its application to human medicine.


The influence of religious beliefs on people's attitudes and actions in the area of animal welfare was examined by interviewing dairy workers on kibbutzim (communal agricultural settlements) in Israel. Workers on religiously observant kibbutzim were no more consistent in their attitudes toward and treatment of dairy cows than workers on non-observant and selectively observant kibbutzim.


Cultural geographers often ascribe early animal domestications to the spiritual propitiation practices of ancient peoples, an interpretation that is not widely shared. This paper evaluates the sacrifice theory against Near Eastern archaeological data and refutes the idea that ritual sacrifice could have induced the earliest animal domestications of the Near East. The earliest domestications were the outcome of essentially ecological and economic processes which later gave rise to the sacrificial practices referred to by cultural geographers.


Background: The prospect of xenotransplantation has stimulated considerable hopes as well as major concerns. The question of whether or not patients accept xenografts is influenced not only by scientific facts but also by psychological factors. It was the aim of this study to analyze the attitudes of patients toward transplantation of xenogeneic organs and evaluate factors influencing these attitudes. Methods: To this end, attitudes toward xenogeneic compared with allogeneic organ grafts were evaluated by means of detailed questionnaires in 1049 patients in Germany, who either had received transplants (n=722) or were on the waiting list for various organ grafts (n=327). Answers were correlated to demographic data as well as to the physical and mental conditions of the patients. Results: The survey indicates that 77% of patients would accept xenografts while 7% would refuse them if results of xenotransplantation were comparable with those of allotransplantation. If xenotransplantation were associated with increased risks due to more intensive medication 58% would still basically accept xenografts. Acceptance of xenografts was significantly higher in patients who had received transplants and among males. Age, religion, waiting time, and type of organ were not found to influence acceptance rates. Xenografts were thought to be associated with considerable or severe emotional stress by 23% of patients, versus 3% for allografts. The pig was the preferred donor animal, and gene therapeutic manipulation for improvement of results would be accepted by 84%. Inadequate graft function/increased risk of rejection and risk of disease transmission were the major concerns for 60% and 52% of patients, respectively; emotional concerns were the major concerns for 24% and animal rights concerns for 15%. Conclusions: These findings show that the potential acceptance rate of xenografts would be quite high, with a more positive attitude in transplanted patients than in waiting-list patients; there was no major difference in acceptance rate for various types of organs. Major concerns about xenotransplantation currently are functional inferiority and transmission of diseases.


Animal welfare must be clearly defined and understood in all languages. Welfare means well-being, so that 'bad-welfare' is contradictory. Welfare depends upon the provision of all necessary physiological and psychological
requirements and the absence or control of adverse factors. Recognition of animals' sentience led to concerns for their welfare. Since animals can neither obtain nor sustain rights for themselves they depend upon humans for their welfare. Stewardship involves responsibility for something and also responsibility to someone. This can mean responsibility to God, or for those without religious beliefs, responsibility to future generations. Veterinarians act as stewards, responsible for treating animals and responsible to the owners. They also have responsibilities to society. Different societies have different expectations of their veterinarians but veterinarians are well placed to support human stewardship for animal welfare. (C) 1998 Elsevier Science B.V. All rights reserved.


The aim of this paper was to register the domestic animals appearing in the iconography of Christian saints and to explain their association. The source of knowledge was literature dealing with hagiographies of saints, sacral iconography and liturgy along with visiting churches, monasteries and museums throughout Croatia. After research in sacral literature and works of art lasting several years, it was observed that the following domestic animals appear as accompanying about seventy Christian saints: bees, bull, camel, cow, dog, donkey, goose, dove, horse, lamb, pig, sheep, steer. Reasons and explanations of their association are most often in practical relations (the animal serves and helps the man). However, in the animal, the most varied symbolic, especially ethical and morality messages are personified very often. Especially interesting are saints honoured as patrons of particular animals and of professionals occupied with animals. In human medicine, they are most frequently protectors from zoonoses, too. In some cases, animals are attributed to saints because of the linguistic association resulting from similarity of the names of animals and saints. In the same way, domestic animals are present in sacral art as a part of ambient decoration, too. In addition, it can also be interesting from the historical and ethnic veterinary point of view. Presented examples show how, by interdisciplinary approach to sacral art and tradition, we can come to other numerous findings surpassing mere religious messages. In this case, these are contributions to the history of veterinary medicine in the widest sense.

Slotten, R. The master of animals: a study in the symbolism of hunting religion. [n.p.: v, 334 l.


Religious traditions can be drawn on in a number of ways to illuminate discussions of the moral standing of animals and the ethical use of animals in scientific research. I begin with some general comments about relevant points in the history of major religions. I then briefly describe American civil religion, including the cult of health, and its relation to scientific research. Finally, I offer a critique of American civil religion from a Christian perspective.


Our moral valuation of nonhuman and human beings alike may arise in sympathy, the realization in feeling of a significant commonality between self and others; in scrupulous observance of policy, the affirmation in practical consistency of a system of relations with others; and in piety, the attitude of boundless appreciation and absolute scruple with respect to objects as sacred—that is, as valued for the sake of adequate valuation of the holy. Differences between the moral status of humans and that of nonhumans are to be explained not by any single criterion such as the capacity to suffer or to make contracts, but rather by finding the relative position of humans and nonhumans on continua of feelable commonality, policy considerateness, and sacredness. Investigation of these differences must take into account the way basic religious apprehensions (or the absence thereor) organize these frames of reference.


Two general philosophical approaches to ethical issues in property rights are described. Instrumental approaches take property rights to be means for achieving goals such as social efficiency or economic growth. Labor approaches take property rights to be fundamental human rights that protect liberty or that assign ownership of goods based on criteria of desert. A thought experiment is used to illustrate the relevance of these theories to intellectual property. Alternative strategies for application of ethical theory to animal biotechnology are surveyed. The choice of an approach determines a burden of proof that must be met before property claims can be ethically sanctioned, but the question of which approach should be applied to animal biotechnology remains open. Ethical issues raised by unwanted consequences of biotechnology and religious objections to gene transfer are briefly summarized with emphasis on how these issues have influenced public debate on animal patents.


The method of ethical analysis is reviewed and applied to questions relating to the unintended consequences, ownership, and metaphysical significance of genetically modified animals. The question of how genetics and recombinant DNA discoveries have an impact on human understanding of the moral community and the limits of acceptable action are emphasized. The potential for genetically modified animals presents a challenge to implicit norms for defining these boundaries. Four philosophical responses to this challenge are reviewed: fundamentalism, conventionalism, dualism, and naturalism. The naturalist response is most consistent with contemporary biology, but it also entails that animals have limited moral significance.


Biotechnology applied to traditional food animals raises ethical issues in three distinct categories. First are a series of issues that arise in the transformation of pigs, sheep, cattle and other domesticated farm animals for purposes that deviate substantially from food production, including for xenotransplantation or production of pharmaceuticals. Ethical analysis of these issues must draw upon the resources of medical ethics; categorizing them as agricultural biotechnologies is misleading. The second series of issues relate to animal welfare. Although one can stipulate a number of different philosophical foundations for the ethical assessment of welfare, most either converge on Bernard Rollin’s "principle of welfare conservation" (Rollin, 1995), or devolve into debates over the ethical significance of animal telos or species integrity. The principle of welfare conservation prohibits disfunctional genetic engineering of food animals, but would permit altering animal's biological functions, especially when (as in making animals less susceptible to pain or suffering) do so improves an individual animal's well being. Objections to precisely this last form of genetic engineering stress telos or species integrity as constraints on modification of animals, and this represents the
third class of ethical issues. Most who have formulated such arguments have failed to develop coherent positions, but the notion of "species being," derived from the 19th century German tradition, presents a promising way to analyze the basis for resisting the transformation of "animal natures."


Tucker discusses some of the issues of interpreting the Hebrew Bible's message on the natural world. After noting the differences between the J and P accounts of creation in Genesis 1-3, he turns to a discussion of how the affirmation of the goodness of creation is potentially threatened in terms of the land, animals, and the destiny of the world. He then shows how creation is not viewed in completely anthropocentric terms -- rather, it is theocentric. While human domination is viewed in realistic terms in the Hebrew Bible, it comes with responsibility and limits.


Genetic engineering of food is the science which involves deliberate modification of the genetic material of plants or animals. It is an old agricultural practice carried on by farmers since early historical times, but recently it has been improved by technology. Many foods consumed today are either genetically modified (GM) whole foods, or contain ingredients derived from gene modification technology. Billions of dollars in U.S. food exports are realized from sales of GM seeds and crops. Despite the potential benefits of genetic engineering of foods, the technology is surrounded by controversy. Critics of GM technology include consumer and health groups, grain importers from European Union (EU) countries, organic farmers, environmentalists, concerned scientists, ethicists, religious rights groups, food advocacy groups, some politicians and trade protectionists. Some of the specific fears expressed by opponents of GM technology include alteration in nutritional quality of foods, potential toxicity, possible antibiotic resistance from GM crops, potential allergenicity and carcinogenicity from consuming GM foods. In addition, some more general concerns include environmental pollution, unintentional gene transfer to wild plants, possible creation of new viruses and toxins, limited access to seeds due to patenting of GM food plants, threat to crop genetic diversity, religious, cultural and ethical concerns, as well as fear of the unknown. Supporters of GM technology include private industries, research scientists, some consumers, U.S. farmers and regulatory agencies. Benefits presented by proponents of GM technology include improvement in fruit and vegetable shelf-life and organoleptic quality, improved nutritional quality and health benefits in foods, improved protein and carbohydrate content of foods, improved fat quality, improved quality and quantity of meat, milli and livestock. Other potential benefits are: the use of GM livestock to grow organs for transplant into humans, increased crop yield, improvement in agriculture through breeding insect, pest, disease, and weather resistant crops and herbicide tolerant crops, use of GM plants as bio-factories to yield raw materials for industrial uses, use of GM organisms in drug manufacture, in recycling and/or removal of toxic industrial wastes. The potential risks and benefits of the new technology to man and the environment are reviewed. Ways of minimizing potential risks and maximizing the benefits of GM foods are suggested. Because the benefits of GM foods apparently far outweigh the risks, regulatory agencies and industries involved in GM food business should increase public awareness in this technology to enhance worldwide acceptability of GM foods. This can be achieved through openness, education, and research. (C) Elsevier Science Inc. All rights reserved.


Much of the scientific literature on vegetarian nutrition leaves one with the impression that vegan diets are significantly more risky than omnivorous ones, especially for individuals with high metabolic demands (such as pregnant or lactating women and children). But nutrition researchers have tended to skew their study populations toward "new vegetarians," members of religious sects with especially restrictive diets and tendencies to eschew fortified foods and medical care, and these are arguably the last people we would expect to thrive on vegan diets. Researchers also have some tendency to play up weakly confirmed risks of vegan diets vis-à-vis equally weakly confirmed benefits. And, in spite of these methodological and rhetorical biases, for every nutrient which vegans are warned to be cognizant of, there is reason to believe that they are not at significantly greater risk of nutritional deficiency than omnivores.


Experiments on living animals are often criticised on ground that they impose unjustified suffering of animals. The present paper is a review of biological, and legislative elements that can help resolve concerning animal experimentation. First, the main stress reactions and signs of pain are presented. Stress has consequences on several biological (such as energy metabolism), it must be limited in experiments - whose aim is not to study stress - by limiting constraints on animals and habituating to experimental procedures. Second, whereas the attributed by philosophers to animals varies from mere objects that can be used by humans to a sensitive creature willing to live, most of them accept animal experimentation to some extent because of a difference between animals and humans. Biologists have proposed rules to limit the use of animals in experimentation (3 R: Replacement, Reduction, Refinement) and tools to evaluate experimental protocols by taking into account the benefit of the research on the one hand and the constraints on the animals on the other hand. Third, national legislation has been set up to control animal experimentation. In France, scientists who want to experiment on animals must be licensed. In other countries, like in Canada or Australia, any experiment must be approved by a committee made of people involved in animal experimentation.


A letter from the Orthodox Saint Paisius to a disciple in Bucharest, exhorting fellow monks to not eat meat.


Introductory article on a special issue of Society and Animals, devoted to the topic of religion and animals and edited by Waldau.


Review of Subverting Hatred: The Challenge of Nonviolence in Religious Traditions


The presence in the world of immense amounts of evil has long been recognized as a major obstacle to belief in a powerful and loving God. To many it has seemed that an especially serious problem is posed by animal suffering, since animals are capable neither of sin nor of salvation and thus reasons often invoked for human suffering cannot apply to them. In this essay Robert Wennberg addresses this issue and considers a number of different responses to the problem of animal suffering; he urges that we should be prepared to take seriously the possibility of an afterlife for animals.


The study deals with the origins of the idea of animal welfare in the civilization process of the 17th and 18th centuries: as cruelty to animals came under attack, this critique emerged not at the court society but in the milieu of the protestant dissent. After a brief description of three characteristics shaping the modern conception of animal welfare, the view is criticized that popular cultures of early modern times had an inherent tendency to an emotionally unrestricted cruelty to animals. Varieties of human-animal-relationships at the court society are depicted, especially cruelties framed by the symbolism of the chase. In contrast, the religious motivated positions of the protestant dissenters, particularly the Quakers, display not only an advanced "ethical" view of man's "fellow creatures" but also a tendency to monitor the animal-related behaviour reflexively. A last section clarifies the socio-genetic preconditions fostering the animal ethics of the protestant dissent, especially the sectarian pattern of "short" social interaction sequences. Some conditions of the social diffusion of the animal welfare idea during the 18th century are outlined.


Factory farming is big business. Since the "products" of factory farming are living, breathing, sentient creatures, particular ethical issues are raised in a market system based on efficiency, productivity, costs of production, and profit. This paper focuses on the question of whether food animals in the American market system are subjected to unnecessary pain and suffering before they make it to our dinner plates. The single most important consideration, then, is an exploration of the extent to which economic considerations render factory farming not only lucrative but also necessary under present market conditions. The concern for "unnecessary suffering" moves the paper into an exploration of the extent to which the practices and effects of factory farming raise spiritual concerns which believers ought to address.