

So Animal a Human . . . , or the Moral Relevance of Being An Omnivore

KATHRYN PAXTON GEORGE

Department of Philosophy
University of Idaho
Moscow, ID 83843

Abstract *It is argued that the question of whether or not one is required to be or become a strict vegetarian depends, not upon a rule or ideal that endorses vegetarianism on moral grounds, but rather upon whether one's own physical, biological nature is adapted to maintaining health and well-being on a vegetarian diet. Even if we accept the view that animals have rights, we still have no duty to make ourselves substantially worse off for the sake of other rights-holders. Moreover, duties to others, such as fetuses and infants, may require one to consume meat or animal products. Seven classes of individuals who are not required to be or become vegetarians are identified and their exemption is related to nutritional facts; these classes comprise most of the earth's population. The rule of vegetarianism defines a special or provisional duty rather than any general or universal rule, since its observance is based upon the biological capacities of individual humans whose genetic constitution and environment makes them suitably herbivorous. It is also argued that generalizing the vegetarian ideal as a social goal for all would be wrongful because it fails to consider the individual nutritional needs of humans at various stages of life, according to biological differences between the sexes, and because it would have the eugenic effect of limiting the adaptability of the human species. The appeal to the natural interests of omnivores will not justify any claim that humans may eat amounts of meat or animal products in excess of a reasonable safety margin since animals have rights-claims against us.*

Keywords: ethics, rights, animals, vegetarianism, omnivore, genetic diversity, eugenics, naturalism, human nature, cannibalism.

Humans are omnivores. Most of us eat animal and plant flesh. It feels natural to do this, and it is traditional, too. That's part of the problem, of course, since whatever is traditional often seems "natural." Thus, it once seemed "natural" to enslave so-called lesser orders of humans and for women to confine themselves to homemak-

ing and child-raising as their "natural" place. Because of this, most contemporary philosophers note examples such as these and make short work of the appeal to nature and, instead, try to concentrate on other arguments that they hope will justify or condemn certain practices.¹ But I will consider whether or not we could use as a moral defence the naturalness of eating meat, given that we are, in our biological natures, omnivores.

My arguments primarily attack the vegan or strict vegetarian ideal, which omits not only meat but all animal products from the diet. Where protein, vitamins, and minerals can be obtained from animal products rather than meat, this is to be preferred on moral grounds, but when milk or eggs are not available or are indigestible, then meat is to be considered the alternative. I accept, for purposes of this paper, the view that animals have rights, and that we have duties to them in virtue of their interests as living beings who can suffer and be harmed. Nevertheless, I will argue that (1) any rule requiring strict vegetarianism cannot apply to the population at large but only to particular humans in particular circumstances; (2) only a small number of people are required to become vegetarians today; and (3) adopting a vegetarian ideal as a social goal would itself be immoral.

A moral defence requires that we have some principle(s) to appeal to in justifying our choices – let us say our choice to kill (or have killed by the slaughterhouse) this particular chicken for supper. The two most important moral theories today (moral rights theory and utilitarianism) both accept the centrality of the value of life. What matters to us now is this life, the body and its preservation, the prevention of harm and death, as there is no other life. Both claim to value the equality of the interests of the individual.

So, we may take as our central ethical principle (and I am rejecting first-person egoism), that each animal has an interest in life and in not suffering pain; that, at least provisionally, we all have these interests equally; and, that it would be, in general, wrong to kill or harm another animal who is not threatening us. Moreover, we all have interests in maintaining health and vigour as these serve survival, the quality of life, and freedom from pain and suffering. These interests in life and health are tied to particular biological needs – for nutrition, clothing or covering for humans, shelter, and so forth. Now, it would seem *that* we eat and *what* we eat are very basic interests, and that, in the case of humans, the satisfaction of these interests is more important than the realization of other interests or ends humans may have, such as for education and personal growth, because adequate sustenance, nutrition and health are prerequisites for the satisfactions of other higher order ends.

For the sake of argument, let us assume that animals have rights. Here, I will grant Tom Regan's basic claims: that animals do have inherent value, that this feature gives them rights, and that they have a *prima facie* case against being harmed or killed (Regan, 1983: 271–3). Does this mean that *you* are required to become a vegetarian? Further, does it mean that we, as an enlightened society, should work to encourage all humans, on moral grounds, to become vegetarians?

With respect to the first question, the implication of moral arguments for vegetarianism is, in essence, a requirement that, rather than being an omnivore, you should

be or become an herbivore, surviving on plant material alone. The arguments of Peter Singer, Tom Regan, Bernard Rollin, and Stephen Sapontzis, and others for vegetarianism all rely not only on moral principles but also on the nutritional fact that "vegetarian diets that include an adequate number of kcalories in a reasonable volume of food, high quality protein or complementary proteins, plus *available* sources of calcium, iron, and zinc, vitamins D and B-12, and recommended levels of other nutrients are believed to be adequate. . . ." (Whitney and Hamilton, 1987: 165). Under these conditions, humans do not, in a strict sense, require meat or animal products for survival and nutritional health. According to these authors, in the absence of health concerns, the only other reasons you might have for choosing to remain an omnivore involve matters of taste, convenience, and economics. But, these fail as sufficient reasons to justify meat-eating because none of the interests humans have in these concerns are more important than the animals' interests in continued health and life.

Now I think that these writers are correct to reject our interests in taste, convenience, and economics as proper justifications for meat-consumption. If you were to claim that it is "natural" for us to want to stick with our old eating habits and to want our food to be cheap and easy enough to get so that we can spend time and energy on obtaining other comforts, then your sense of "natural" refers to a particular, ideal (as opposed to empirical) view of human nature which is culturally relative and subject to modification by the ideals a culture may adopt. There is, after all, an element to human nature that is self-defined and social. But we really do not discover what our ideal human nature may be by using empirical data – nor should we.

But if you were to claim that humans are "naturally" *omnivores*, then you would be appealing to a more objective sort of consideration. Here one may be appealing to the limits of possibility within which humans can be expected to change their view of themselves and to act in ways to achieve a moral ideal. Pointing to our omnivorous nature appeals to our biological nature and to the interests we have in the nutrition and health of our bodies. Here, we do have empirical criteria for understanding what the nutritional requirements of our bodies are, and we know that when these requirements are not met people may suffer loss of vigour, illness, and even death. If you did require meat or animal protein – if you were, let us say, by nature a true carnivore – then wouldn't you have justification for at least consuming enough meat or animal products to meet your needs?

Although Regan is a strong animal rights advocate, he admits that, if we needed meat for adequate nutrition, then this would defeat the moral argument for vegetarianism (Regan, 1983: 337). We would be morally permitted to consume meat because we have no duty to allow ourselves to be made worse off for the sake of another, even if that other is not threatening us. He designates this as the "Liberty Principle." And he argues that some of the interests of a human being are more important than those of other animals because the range of satisfactions which we can experience is greater (Regan, 1983: 334).

Regan's argument for vegetarianism rests firmly on a factual claim: That meat is not necessary to nutrition or health. This being so, we do not have a basic interest in meat consumption, and, so, since the animals' interests in life *are* basic, then

we are morally prohibited from killing them. (Regan, 1983: 337).

Because the Liberty Principle applies across species, the answer to the question of whether you should become a vegetarian *would not depend at all upon a moral command not to eat meat*. Instead, it would depend solely on whether your own particular biological nature is suited to maintaining good health and vigour on a vegetarian diet. Carnivores are naturally unable to thrive on plant foods alone and must have meat in their diets. There are probably not many human beings who are true carnivores, but it is simply a false generalization that no human beings need meat or animal products for health and survival.

Who is Required to Be a Vegetarian?

Large numbers of existing human beings could not thrive on an all-plant diet. If you are among these, then you would not have a duty to abstain absolutely from meat and animal products. There are at least seven classes of individuals who would be adversely affected nutritionally by strict vegetarian diets: (1) infants and children, (2) gestating and lactating women, (3) older women and some older men, (4) allergic individuals and individuals who are predisposed to vitamin and/or mineral deficiencies, (5) undereducated individuals, (6) poor individuals, including people living in countries where selection of food is narrow and erratic, and (7) people who are genetically not predisposed for vegetarianism. People who belong to these classes, I shall designate as having a "natural interest" in consuming meat or animal products. The claims of individuals in the first six classes are discussed below, and those of the less well-defined class of persons in (7) are discussed in the section entitled "Should Vegetarianism Be a Social Goal?"

Although nutritionists generally agree that vegetarian diets can provide complete nutrition to most adults and are perhaps even more healthful than those of meat-eaters, they do warn of special problems with respect to infants and children.

Because of their special needs for growth, infants and children risk nutritional deficiency regardless of the dietary pattern followed. Infants and children on restrictive vegetarian diets are particularly susceptible to nutrient deficiencies and slowed rates of growth and development. Dietary deficiencies most often seen are those related to energy, protein, vitamins D, B-12, and riboflavin, and the minerals calcium, iron, zinc, magnesium, and iodine.

Vegetarian diets may be so high in bulk that they may not meet energy needs. The volume of vegetarian foods necessary to meet the energy requirements of infants may exceed the capacity of the infant's stomach. (Whitney and Hamilton, 1987: 164)

In the U.S. – a highly educated nation – there are repeated citations in the literature, not only of nutritional deficiencies in children on vegetarian diets, but also among children of the poor whose diets are inadequate because of the limited variety

of foods, even when the diet is not a vegetarian one.

Meat is a source, not only of complete protein, providing the proper balance of amino acids, but also of *compact* protein, so important to adequate nutrition in children. According to Anson Bertrand of the U.S. Department of Agriculture, animal products currently provide (adult) Americans with "one-third of their energy, two-thirds of their protein, two-thirds of their fat, four-fifths of their calcium, two-thirds of their phosphorus, 38% of their iron, 42% of their vitamin A, 37% of their thiamine, 79% of their riboflavin, 47% of their niacin, 60% of their vitamin B-6 and virtually all of their vitamin B-12."² Making sure that an adequate supply of these essential nutrients is replaced in an all-plant diet can be a truly formidable task, especially with respect to vitamin B-12, calcium, and iron.

To ask parents to remove meat and animal products from the diets of their children is to ask them to take a substantial risk of making their children seriously worse off for the sake of another. Since parents are responsible for insuring the well-being and health of their children, they are under a moral obligation not to take undue risks with the health and well-being of their children. Parents who wish to take such risks are, in practice, barred from doing so. For example, courts have consistently ruled against parents who wish to refuse blood transfusions or to try untested or unapproved therapies for their children. These rulings have upheld standard treatments known to protect the life and health of the child. Because vegetarian diets pose a significant health risk to infants and children, parents are probably under an obligation to include some meat and animal products in the diet of their children.

Parents who wish to feed their children on vegetarian diets might overcome this objection by giving the children artificial supplementation of all the vitamins and minerals listed above. But this also involves significant risk, especially if an attempt is made to supplement a large combination of vitamins and minerals simultaneously.

Four factors may interact to defeat even the scientist, much less the lay person, who hopes to substitute pills for food sources of nutrition: (1) bioavailability of nutrients; (2) interaction among nutrients with themselves and with medications; (3) physiological factors of age, gender and general health; and (4) potential toxicities of supplements.

First, a nutrient must be "bioavailable." It does not matter how much calcium or B-12,³ for instance, are consumed if it is in a form that the body cannot use. Calcium in milk and milk products has been shown to be better absorbed than calcium from plant sources (Allen, 1986: 6; Solomons, 1986: 167). Calcium is needed by children to ensure proper growth of bone and teeth, but studies of children on vegan diets (who presumably get their calcium from all-plant sources) show that these children may fall below the norm for height, weight, and growth velocity.⁴ Calcium supplementation from dolomite and bonemeal may contain toxic amounts of lead, mercury, or arsenic, which has prompted the FDA to warn against its use in young children and pregnant women (FDA, 1982: 5).

Second, nutrients, whether from food sources or from supplements, interact with each other and with other chemicals in the body. "Hundreds of" such interactions are recognized (McBean, 1987: 9). Nutritionists have expressed concern that use of

supplements may create imbalances because of these interactions, and several studies bear out their concerns (McBean, 1987: 9–10). A moderate increase in zinc intake as a supplement, for instance, has been shown to reduce copper absorption in young men (McBean, 1987: 9–10); Ferta et al., 1985: 285).

Third, the quantities of vitamins, minerals, and other nutrients which are required by individuals varies according to their age, gender, and general health. There is also a wide range of variation among individuals concerning the quantities and most effective sources of nutrients.

Finally, nutritionists are already concerned with the overuse of supplementation since "all nutrients, if consumed in sufficient amount, may be toxic," and toxicities in fat-soluble vitamins, such as A and D, as well as in water-soluble vitamins, have been reported in the literature (McDonald, 1986: 7; Hartz and Blumberg, 1986: 130).

Parents might incur minimal risk by supplementing only one requirement such as B-12, given the apparent rarity of this deficiency, but supplementing a large number of other nutritional requirements would simply multiply the risk factors. In fact, the American Dietetic Association, the American Institute of Nutrition, and the American Society for Clinical Nutrition have issued a joint advisory that

[h]ealthy children and adults should obtain adequate nutrient intakes from dietary sources. Meeting nutrient needs by choosing a variety of foods in moderation, rather than by supplementation, reduces the potential risk for both nutrient deficiencies and nutrient excesses.⁵

At the present time, because of their responsibilities to children and the limited knowledge we have of the effectiveness of chemical vitamin supplements, parents are required to take the "better safe than sorry" approach to nutrition and provide the best sources possible for calcium, vitamin D, riboflavin and other essential nutrients. These are best provided by whole natural foods, including at least moderate amounts of meat and animal products.

The second group of persons – gestating and lactating women – are also morally required to make certain their diets are adequate. Such women are at risk for depletion of vitamins and minerals, and the health of the fetus or infant depends upon the health of the individual woman. "Women on vegetarian diets, particularly during their child-bearing years, may have difficulties in obtaining adequate iron on a diet without meat or eggs."⁶ Meat is rich in heme-iron, which is more readily available for use by the body. A diet which includes meat and animal products will protect the health of the developing fetus and of the mother herself.⁷

A third group, older persons, especially women, risk osteoporosis from calcium depletion, and the best source of calcium is milk and dairy products. These women are at risk of making themselves worse off if they abstain from these natural sources of the mineral. Artificial supplements may not be as effective as natural sources; and, as mentioned above, may contain significant concentrations of lead and other heavy metals which can cause damage to the nervous system among other things (FDA, 1982: 5).

The fourth group – composed of a significant number of individuals – are also allergic to grains and/or legumes. These people are not able to get complete protein by combining the proper proportions of grains and legumes to balance the necessary complement of amino acids. Since these people would be made seriously worse off by being deprived of meat and/or animal products, they are under no moral obligation to be or become vegetarians.

Perhaps the largest class of individuals exist in groups 5 and 6 above. These are the under-educated and the poor. These comprise the majority of the world's population; 75% of the world's population live in poor countries; some 800 million of the world's population are illiterate (Hamilton et al., 1984: 149). Roughly 20% of the world's population is malnourished (Hamilton et al. 1984: 149), and a larger number are undernourished. In some places in the world, there is not a broad selection of food, and people must eat what is available at the time regardless of their economic class. The health and lives of these people are threatened by protein, vitamin, and mineral deficiencies all of their lives. A moral rule of vegetarianism cannot apply to these people. Even extolling the practice in their case without giving them access to food supplies for balanced nutrition and without also introducing education would itself be immoral.

Limitations on Consumption

Those not required to be vegetarian, however, are not permitted to eat as much meat and animal products as they wish. Rather, they are permitted to eat only enough to ensure adequate nutrition and health, with a reasonable margin for safety. This would mean that nearly all persons of the middle and upper class in rich countries would be required to cut their consumption of these products drastically.⁸ Numerous writers cite the wastefulness of raising large numbers of animals for consumption of excess amounts of meat and animal products. Frances Moore Lappé (1975: 11) has called this trend a "protein factory in reverse," because grain that could be fed to human beings, when fed to cattle, poultry, or other food animals, results in a net loss of protein available from food sources. Sometimes it is countered that range fed ruminants do not eat grain that we could eat, but rather feed upon grasses and other plants which are indigestible to humans. But this is not the way most beef is raised. Feed-lots are used and grain, some of which might be consumed by humans, is fed to the cattle. And, range feeding can be environmentally destructive. In fact, the destruction of the world's rain forests is primarily attributable to efforts at "economic development" in the Third World. Norman Myers reports that 70% of the forest losses are the result of "slash-and-burn agriculture"; forests are cut to grow subsistence crops, to graze cattle, or to sell timber. The land is not very fertile and is soon worn out, requiring the destruction of more rain forest (Myers, 1985: 2). But in this way, South and Central America provide cheap beef for fast-food in the U.S. and other developed nations. In addition, although the rain forest covers only 7% of the earth's land surface, it holds more than half of all the world's species of life,⁹ produces a substantial portion of the world's oxygen supply, and helps to maintain current planet temperatures.¹⁰ If left intact, the rain forests could slow the reduc-

tion of the ozone layer and the warming trends in global climate. Gluttony is, in the end, connected to the Greenhouse Effect!

Using the Criterion of Natural Interest

To return to answering the question, are *you* morally required to become a vegetarian, you would have to ask yourself objectively whether you have a natural interest in consuming the protein that meat and animal products provide. This natural interest is grounded in a basic interest in survival and health and vigour, and is not just an interest in maintaining traditions or habits or even a huge margin of safety with respect to health. People who fall into the groups listed above would not have a duty to become strict vegetarians, and there may be other groups that I have not mentioned. What is crucial to know is whether your own individual biological nature is well-suited to an all-plant diet or not. If you are an adult male, non-allergic, healthy, well-educated, middle or upper class individual or a young adult non-allergic, healthy, well-educated, middle or upper class female unable to bear children, then you may be reasonably assured by the scientific evidence on nutrition that you do not need to eat meat. For you, the defence of being "naturally omnivorous" is invalid because your own biological nature does not depend upon meat or animal products for health.

Thinking about the total population that comprises the groups above, we can also see that a moral rule requiring strict vegetarianism applies to a minority of the humans living today. Whether or not you are required to become a vegetarian depends upon where you live, who you are, how old you are, what gender you are, and what your genetic constitution or existing health is. From the point of view of moral theory, this is odd because most of our important rules of justice require us to be blind to such things as where we live, our gender, and our age. We are required to tell the truth no matter where we live, whether male or female, whether young or old. Jobs and education are to be awarded based on qualifications for the work required, and criteria such as age and gender, which are biologically accidental, are deemed irrelevant. And all, not just some, employers are morally bound to ignore these biological characteristics in hiring. Such biological characteristics as age and gender are irrelevant because they define the limits of human possibility, whereas opportunities and moral requirements obtain within a sphere which we can change through our own actions. But with the so-called rule of vegetarianism, biological factors *are* relevant to deciding who is bound by the rule and so to deciding who may consume animal flesh and animal products.

The duty of vegetarianism is a provisional duty and depends upon biological and situational facts. Those who appeal to their nature as a defence for consuming meat or animal products are on good ground if their biological nature is such that they require these foods to sustain their own health and vigour or the health and vigour of a dependent child.

In the end, I do not think that this appeal should be considered as an appeal for an exception; it is not, strictly speaking, a "defence." The reason it is not a defence is that the rule of vegetarianism is not in any way a general or universal rule. It can-

not apply to all or even to most human beings. Rather, the rule applies to particular human beings whose nature permits them to be herbivores rather than omnivores, and to humans whose circumstances make a wide enough variety of food available to them to permit health to be maintained in the absence of animal flesh and/or animal products.

Should Vegetarianism Be a Social Goal?

Another question that I posed earlier concerns whether we have an obligation to promote vegetarianism as a social goal. Both Tom Regan and Peter Singer have argued that vegetarianism should be promoted as a goal that humans should adopt and work for, and they assume that at some time in the future, with proper education, food sources, and supplementation, we could all become vegetarians – or at least most of us could. This is said to be a worthy goal because it would limit the suffering and death of future animals.

But, this claim is based on more subtle factual and evaluative assumptions, among them, first, that it is possible for us to become an herbivorous *species*; and, second, that by becoming a herbivorous species we would do no or less harm to (invade or destroy fewer basic interests of) individuals (humans and other animals) in the moral community or to the community as a whole than were we to remain omnivores.

While I believe that both of these assumptions are false, let us suppose for now that the human species could, at some future time, become herbivorous by providing adequate food supplies, education, and vitamin/mineral supplementation. The second assumption is still false. The moral command to maintain a vegetarian diet would have long-term eugenic effects and would make the descendants of some of us worse off in the future than they would otherwise be had we not adopted the moral rule.

Our metabolic and nutritional needs are largely inherited, and scientific evidence suggests that there is a broad range of variation among humans. Nutritional needs are affected by the endocrine system, by hormones and enzymes, whose ultimate production, quantities and interactions, are governed by genetic inheritance. The nutritional needs of women, for example, in general may vary greatly from those of men because they inherit a somewhat different set of genes, present on the X-chromosome. Within the subgroup of women, there are some women who, because of their genetic inheritance, will develop osteoporosis unless they ingest adequate amounts of absorbable calcium. Such individuals constitute a "genetic discrimination group" who would suffer in a world in which there is social pressure to adopt strict vegetarian diets. Women whose genetic constitution does not permit them to thrive on strict vegetarian diets would produce fewer and less healthy offspring, and, over time, the genetic alleles associated with these traits would be diminished in the gene pool. Genes favoring health on a strict vegetarian diet would tend to increase.

The point is that ethical practices will have the effect of fostering the survival of some lines of individuals rather than others and so will have a eugenic effect.¹¹ Sociobiologists point out that ethics itself has evolutionary value in that those individu-

als who were able to form ethical rules which benefit the community and engender cooperation were much more likely to survive and reproduce than those who did not.¹² These are, of course, not the only traits that matter for survival and reproduction. General health, vigour, and bodily function are important, as is increased intelligence. The point is that the practices adopted by a community into which the organism is born constitute an environment within which the organism flourishes or fails. For example, in a human community which punishes sexual promiscuity severely, those with less libido (or who can control it) will, in general, survive and reproduce better than those whose libido rules them. Over time, the genetic factors which control promiscuous behaviours (genes which govern the production of hormone levels?) will reach a low level in the population, whereas the opposite will be true of factors leading to continence. Because humans tend to act on each other to enforce preferred behaviours, it is reasonable to suppose that these genetic changes can occur over a relatively short period of time. Victorian practices gave great disadvantages to children born out of wedlock. Greatly reduced access to income and social status also reduces access to medical care, education, proper nutrition, and, in turn, can severely reduce in most such individuals the likelihood of survival and reproduction (fitness). So, too, moral practices which condemn certain diets may have the eugenic effect of favouring individuals who already thrive on the approved diets.

What we must consider in adopting an ethical ideal favouring vegetarian practice are the consequences of adopting the ideal. Regan and Singer must be able to say, at least, that adopting the vegetarian ideal would do no or less harm to our descendants than choosing not to adopt, say, a diet with moderate meat and animal product consumption. Vegetarian practice would certainly have positive health effects for some human beings, in that vegetarians, in general, are less likely to be obese, have lower blood cholesterol levels, lower rates of some forms of cancer, and better health in other ways (Whitney and Hamilton, 1987: 165). But, for those who would not do well on such diets, the ethical ideal would serve to make them and their descendants worse off for two reasons.

First, since, as I have suggested above, a large category of such persons – most gestating and lactating women and most infants and children – would be made worse off because of their genetic constitutions, and because all persons are born of women (to date, at least!), it seems likely that *most* people would be at substantial risk of being made worse off in a strict vegetarian world.

Second, if, as is likely, those women who could not successfully nurture a fetus and an infant on a strict vegetarian diet and those infants and children who could not thrive on these diets would be less fit evolutionarily in the cultural environment created by the practice of omitting these food sources from the diet, the number of these individuals and the genes associated with their biological needs would decline in the population, and genes favouring vigour as an herbivore would increase.

If the suffering in the first case is thought to be justified (presumably on utilitarian grounds) because of the moral benefit to later generations of both humans and animals, then one might answer, "well and good," to this eugenic consequence. But I would say that the probabilities are still greater that such a change in the gene

frequency would tend to increase chances of the extinction of the human species because it would, in turn, make our own species more uniform, less diverse, and less adaptable to changing conditions for survival. Although there is not space here to defend this claim, I take it that purposeful or knowing extinction of the human species would be wrong.

Would such a change in the frequency of genes in the pool really make a difference to our species survival? I think that it would. Because of predicted effects of global warming and ozone depletion, the environmental conditions under which our descendants must live will possibly change dramatically in the future. Rapid changes in climate are predicted to occur, and agricultural growing patterns will also be altered and widespread crop failures may possibly result. We do not know with any great certainty what our capacity to grow certain food staples will be, but we do know that the capacity for adaptability is thought to be a key to our species survival.

So, adopting an ethical ideal extolling the virtues of the strict vegetarian is misguided because it could, in certain environmental conditions, diminish the survival and health interests of future persons and of our species itself.

Instead, it would be better to argue for largely vegetarian diets which permit safe, but limited, consumption of meat and animal products. The grounds for adopting this kind of diet involve considerations, not only of human and animal rights, but of environmental concerns mentioned above.

One Final Concern

At this point, someone might object that the position I have outlined might permit us to eat human flesh in circumstances where it is necessary to maintain health. Afterall, if we accept Regan's view that all animals have inherent value and so have rights, but that we do not have obligations to make ourselves worse off for the sake of another when it comes to our basic interests in life and health, then it would appear that sometimes cannibalism might be permissible.

Although a complete defence of my own view on this question would exceed the scope of this paper, I shall outline it here. I do not believe any simple utilitarian or consequentialist view will give us an adequate and fair explanation about why we might be permitted to eat non-human animal flesh but not human flesh.¹³ Instead, I think it more consistent to adopt a rights view. Tom Regan has claimed that the reason that animals have rights is that they share with humans (who are paradigm rights-holders) all of the characteristics thought essential to having rights: that is, being the subject-of-a-life, having a good-of-one's-own, being capable of being benefitted or harmed. Although historically many thinkers in moral rights theory have argued that what matters most is whether the individual has rationality or self-consciousness (which gives the person the ability to make and follow moral rules), Regan rejects this criterion as a necessary condition for being a rights-holder. He points out that many of the humans we surely would want to protect with the strong assertion that they have rights include persons who are not rational – such as the retarded, the insane, or the immature. These persons are not moral agents, in that they cannot make and follow moral rules, but are instead "moral patients."

They can be and are the objects of our moral concern (Regan, 1983: 271–3).

So, being the subject-of-a-life with a good-of-one's-own means that a person or an animal has inherent value, and this confers rights upon the being. But having inherent value does little besides tell us that *this being* must be of concern to us and that its interests in its own good must be considered. It seems to me that any adequate view of interspecies rights must take into consideration what the most important interests of the species members are. It is probably true that most animals do not have a self-conscious interest in not being eaten or for that matter in remaining alive. They do, however, have a welfare interest in remaining alive (that is, they have an interest in it whether they know it or not). They have conscious interests *and* welfare interests in not suffering and in living their lives in ways to which they are adaptively suited. It seems to me plausible to say that we ought to protect as most important those interests which are both conscious interests and welfare interests. So, the priority of interests for a non-human animal is likely to be different from that of humans, who would place it as both a conscious interest *and* a welfare interest not to be killed and eaten. Even those humans who do not have such conscious interests (infants, the senile, retarded, or insane) could still have rights not to be killed and eaten that are grounded in the interests and concern of their relatives for them. It is interests then, rather than inherent value as such, which give rise to the nature and priority of rights that species have.

Moreover, I do not think it morally wrong to eat human flesh in certain extreme circumstances. In the case of starving populations, eating the flesh of persons who have died naturally does not seem morally wrong. I also think that there are health reasons for avoiding consumption of human flesh that would probably mitigate against any widespread adoption of the permissibility of cannibalism, which is just to say that we have health interests in not consuming each other, which can be translated to generate a claim of each against the others to respect such health interests.

Conclusion

In summary, there is no universal requirement to abstain from meat, although particular persons may have a provisional duty to do so. The arguments for vegetarianism are aimed at an important minority of the world's population – adult males and some females in rich countries. The validity of a principle requiring them to become vegetarians depends solely upon facts rather than values – upon whether their health and vigour are not seriously harmed by an all-plant diet. Generalizing the ideal of vegetarianism as a social goal would be wrong because it fails to consider the individual nutritional needs of humans at various stages of life, according to biological differences between the sexes, and because it would have the eugenic effect of limiting the adaptability of the human species. Human beings in a variety of categories can claim that they are probably "naturally omnivorous" and as such may assume the moral permissibility of eating some meat or using some animal products, even though some animals are made worse off. The appeal to natural interest will not, however, justify a claim that humans may eat amounts of meat or animal products in excess of a reasonable safety margin.

Acknowledgements

I wish to thank Marvin C. Henberg, Charles Leathers, Kathy Beerman, John Froseth, the editors and anonymous referees for their help in the research, discussion, and clarification of the ideas which appear here. This research was supported in part by a grant-in-aid from Washington State University.

Notes

1. This particular defence has been brushed aside by most writers in the field of animal welfare and animal rights. See for instance Rollin (1981: 14–15, 63) and Sapontzis (1987: 232).
2. Quoted in Pond et al. (1980: 9).
3. The most serious nutritional difficulty with a strict vegetarian diet involves vitamin B-12 deficiency, but because this vitamin can be stored over a long period of time, deficiencies are rarely reported and are apparently related to factors affecting absorption of the vitamin. "All vitamin B-12 found in nature is made by microorganisms, [and] is absent in plants...." Natural sources of the vitamin are primarily feces contaminated by vitamin B-12-producing bacteria from soil or feces, but reliance on fecal sources is objectionable for health reasons. Meat, eggs, and milk are rich sources of B-12 because animals store this vitamin in their tissues. Plants, however, do not store B-12 and so do not contain it (Herbert, 1984: 349). Without supplementation, "strict vegetarians always develop vitamin B-12 deficiency very slowly over a period of many years" (p. 349). Deficiency of B-12 produces "an insidiously progressive neuropathy" involving the spinal cord ("subacute combined degeneration" or "posterolateral sclerosis") and brain ("megaloblastic madness") (Herbert, 1984: 357; Herbert and Tisman 1973: 373–92). These are serious side-effects of a nutritionally inadequate diet. Herbert also reports, for instance, that a substantial percentage of the B-12 in multivitamin preparations is converted to analogues by the presence of vitamin C, iron and other nutrients in the same preparations. These analogues actually blocked vitamin B-12 metabolism in mammalian cells (p. 351).
4. *Journal of the American Medical Association* 228 (1974: 675); Dwyer et al. (1978: 264); Shull et al. (1977: 410).
5. McBean (1987: 12); Council on Scientific Affairs (1987, 257: 1929).
6. "Nutrition and Vegetarianism," *Dairy Council Digest* 50:1 (Jan-Feb 1979: 3); Mayer (1973: 32); *Nutrition Review* 36 (1978: 243).
7. While I do argue that women have a duty to protect the interests of their offspring, I do not argue here that society has duties to require gestating women to maintain proper diets. Respect for the woman as a person permits appeals to reason and to argument, but respect for persons in general probably prohibits society from coercing any gestating woman to do anything for the sake of the unborn. Infants who are nutritionally neglected, on the other hand, might be removed from the custody of a parent in some circumstances.
8. Hamilton et al. report that "a person born in the rich world will consume 30 times as much food as a person born in the poor world" (p. 149). Those of us in the rich world also consume 85% of the world's available energy.
9. Myers (1985: 2); see also Tangley (1988: 375).
10. For a discussion of the relationship of global warming to the existence of rain forest, see Dickinson (1986: 270–271).
11. Concerns about the effects of vegetarianism on populations not well-adapted to such diets and the morality of adopting vegetarianism as a moral goal have been raised by Hurnik (1979/1980: 145–154); see especially pp. 148–149.
12. Ruse (1986), esp. chap. 6; Alexander (1987), esp. pp. 253–257.
13. Singer (1979) has attempted to give such a justification on utilitarian grounds. On the assumption that humans would suffer more if they knew they or any other human were to

be eaten, humans should not be eaten. If animals were raised without suffering and without the awareness that they were eventually to be eaten, and if they were killed painlessly and immediately replaced with other similarly happy animals, then Singer agrees that the practice of meat-eating would not be wrong. The "replacement argument" yields the result we think intuitively correct, but the reasons for its correctness seem implausible. Why should replacing one happy individual with another make the killing of the one justifiable?

References

- Alexander, Richard D. 1987. *The Biology of Moral Systems*. New York: Aldine de Gruyter.
- Allen, L.H. 1986. *Nutrition Today*, 21: 6.
- Council on Scientific Affairs, American Medical Association. 1987. *Journal of the American Medical Association*, 257: 1929.
- Dickinson, R.E. 1986. Impact of Human Activities on Climate – A Framework. In *Sustainable Development of the Biosphere*, edited by W.C. Clark and R.E. Munn. Cambridge: Cambridge University Press for the International Institute for Applied Systems Analysis.
- Dwyer, J.T., R. Palombo, H. Thorne, I. Valadian, and R.B. Reed. 1978. *Journal of the American Dietetic Association*, 72: 264.
- FDA. 1982. *FDA Drug Bulletin*, 12: 5.
- Festa, M.D., H.L. Anderson, R.P. Dowdy, and M.R. Ellersieck. 1985. *American Journal of Clinical Nutrition*, 41: 285.
- Hamilton, Eva May Nunnolley, Eleanor Noss Whitney, and Frances Sienkiewicz Sizer. 1984. Controversy: World Hunger, chap. 6. In *Nutrition: Concepts and Controversies*, 3rd ed. St. Paul: West Publishing Co.
- Hartz, S.C. and J. Blumberg. 1986. *Clinical Nutrition*, 5: 130.
- Herbert, V. and G. Tisman. 1973. In *Biology and Brain Dysfunction*, edited by G. Gaull, vol. 1. New York: Plenum Press.
- Herbert, Victor. 1984. Vitamin B-12. In *Nutrition Reviews' Present Knowledge in Nutrition*, 5th ed. Washington, DC: The Nutrition Foundation, Inc.
- Hurnik, J.F. 1979/80. Animal Welfare and Modern Agriculture, *Animal Regulation Studies*, 2: 145–154.
- Lappé, Frances Moore. 1975. *Diet for a Small Planet*. New York: Ballantine Books.
- Mayer, J. 1973. *Journal of Family Health*, 5: 32.
- McBean, Lois D., M.S., R.D., ed. 1987. Dairy Council Digest, 58(2): 9.
- McDonald, J.T. 1986. *Clinical Nutrition*, 5:27.
- Myers, Norman. 1985. The End of the Lines, *Natural History*, 94: 2, February.
- Pond, Wilson G., Robert A. Merkel, Lon D. McGilliard, and V. James Rhodes, eds. 1980. *Animal Agriculture: Research to Meet Human Needs in the 21st Century, Executive Summary*. Boulder, CO: Westview Press.
- Regan, Tom. 1983. *The Case for Animal Rights*. Berkeley: The University of California Press.
- Rollin, Bernard. 1981. *Animal Rights and Human Morality*. Buffalo: Prometheus.
- Ruse, Michael. 1986. *Taking Darwin Seriously: A Naturalistic Approach to Philosophy*. Oxford: Basil Blackwell.
- Sapontzis, Stephen. 1987. *Morals, Reason, and Animals*. Philadelphia: Temple University Press.
- Shull, M.W., R.B. Reed, I. Valadian, R. Palombo, H. Thorne, and J.T. Dwyer. 1977. *Pediatrics*, 60:410.

- Singer, Peter. 1979. Killing Animals and Killing Humans, *Inquiry*, 22: 145–156.
- Solomons, N.W. 1986. *Nutrition*, 5: 167.
- Tangley, Laura. 1988. Studying (and Saving) the Tropics, *Bioscience*, 38(6): 375.
- Whitney, Eleanor Noss and Eva May Nunnelley Hamilton. 1987. *Understanding Nutrition*, 4th ed. St. Paul: West Publishing Co.

**Announcement
International Conference on
Alternatives in Animal Husbandry
Witzenhausen, Germany
July 22 – 25, 1991**

Organized by the University of Kassel, Department of Agriculture.

Topics covered will include:

The role of farm animals in sustainable farming system;

Alternatives in animal husbandry;

Exchange of scientific experience;

Improvement of international cooperation.

Call for papers and posters: by December 1990.

Deadline for delivery of manuscripts: May 1, 1991.

For more information contact:

Prof. Dr. E. Boehncke

University of Kassel, Department of Agriculture

Nordbahnhofstr. 1 a D-3430 Witzenhausen, Germany