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ETHICAL PRINCIPLES VERSUS GUIDING PRINCIPLES IN ENVIRONMENTAL ETHICS.

Dieter Birnbacher

1. Introduction: ethical principles versus guiding principles

What is environmental ethics about? Whereas environmental ethicists agree that environmental ethics is about the rules governing man's relation to nature (or rather his natural environment, i.e. those parts of nature immediately surrounding him), not very much thought has so far been given to the question what kinds of rules these are, and what the environmental ethicist is exactly supposed to do about them. One thing he is supposed to do about them is *analysis*, the clarification of relevant norms and criteria explicitly propounded, and the explication of implicit normative presuppositions in the views of environmentalists and other participants in the ecologic debate. Another task which he is supposed to set himself to is the *normative* one of proposing and justifying moral principles destined to regulate man's behaviour towards nature. What he is expected to do, and what he sees himself to be doing most of the time, is to put forward moral standards for man's dealings with nature which reflect the newly awakened ecological sensibilities and which are candidates for replacing some of the traditional principles that have lead into ecologic disaster. Naturally, these alternative standards need not necessarily involve a complete abandoning of traditional moral principles. In many cases it will be perfectly sufficient for the environmental ethicist to retain the old principles and only to reformulate, in view of the new problems, some of the axiomata media and the more concrete directives following from them.

Analysis and justification of ethical norms are central to environmental ethics as they are to other pursuits in the field of applied ethics. There is, however, a third task, easily overlooked because superficially similar to the second one: the proposal and justification of *guiding principles*. Guiding principles are different from ethical principles because their functions are different. While ethical principles of environmental ethics can be expected to tell us what is morally right and what is morally

wrong in our dealings with animals, plants, and nature at large, guiding principles are expected to offer orientation and motivation in the endeavor to put to concrete action what is entailed by the ethical principles. The primary function of ethical principles is to show, by ethical reasoning, what is right and what is wrong. The primary function of guiding principles is to insure that what is right is not only verbally recognized but is actually done. Whereas the central role of ethical principles is the justification, as ethically adequate, and the criticism, as ethically inadequate, of human behavior, the central role of guiding principles is to motivate people to do what they themselves recognize to be right by orienting their attitudes, and the understanding they have of their role in the direction indicated by the ethical principles. Evidently, guiding principles are called for only when the relevant ethical principles are themselves unsuited to fulfill this task. This will often be the case, however, especially when the ethical principles are of a rather abstract kind, or when they make high demands on people's selflessness.

Guiding principles, then, are deliberately functional, not unlike ideologies (in one sense of the term), or legal norms. Their merits and demerits are correspondingly to be judged not only on criteria related to their content, but also on pragmatic criteria such as practicability, simplicity, and emotional appeal. Inevitably there will be differences between the content of the ethical principles and the content of the guiding principles destined to support their observance, sometimes of a quite radical sort. It cannot be taken for granted that the best guiding principles to support broadly anthropocentric aims, such as safeguarding the intactness of the natural environment for future generations, will also be of an anthropocentric sort. It might well turn out that the best option is a guiding principle of a decidedly non-anthropocentric kind, requiring the individual to care for natural objects for their own sakes. The thesis put forward by Robert Spaemann[1] and (more tentatively) by Laurence H. Tribe[2], that some anthropocentric ecological aims might only be attained if non-anthropocentric guiding principles are adopted and followed, cannot be dismissed as absurdly out of hand. True, there may be some disingenuousness in such assertions, attempting, as they do, to make non-anthropocentric principles palatable to an ingrainedly anthropocentric political culture. Be that as it may, there is nevertheless no absurdity in the supposition that, as a matter of fact, only the widespread adoption of non-anthropocentric guiding principles is capable of effecting the changes in outlook and policy required if widely shared anthropocentric aims of conservation and preservation are to be attained. In fact, something

will be said later on in favor of its being a genuine possibility.

As a point of environmental metaethics, the distinction between ethical principles an guiding principles seems to me important in more than one respect. First it may prove to be of some help in the proper understanding of what the one or the other environmental ethicist has to say. Most environmental ethicists address themselves to the ethical principle issue, but the few that are primarily interested in the exposition of guiding principles are frequently mistaken to belong to the same lot and unfairly criticized for the doubtful ethical credentials of their otherwise quite attractive principles. Secondly it supports the suspicion that the divisions between the different approaches in environmental ethics - anthropocentric, pathocentric, biocentric, holistic - are perhaps not as rigid as they seem at first sight. There is a chance, rather, that the divisions between environmental ethicists are at least partly due not to any substantial disagreement concerning ethical fundamentals but to different metaethical conceptions of what they are doing.

What follows should be read in the light of the metaethical distinction outlined. The thesis for which I shall argue is twofold: first, that as far as the ethical principles of environmental ethics are concerned, there are good reasons to prefer pathocentrism as a general approach to both anthropocentrism and biocentrism; second that as far as guiding principles are concerned, there are equally good reasons to prefer biocentrism (at least a weak variant of it) to both anthropocentrism and pathocentrism. The method followed by my defence of pathocentrism as a general approach to environmental ethical principles could be described as comparative. It proceeds through three steps: by arguing, first, that pathocentrism is preferable to anthropocentrism; by arguing, second, that holism (in one if its senses) is preferable to biocentrism; and arguing, third, that pathocentrism is preferable to holism.

2. Preferability of pathocentrism to anthropocentrism

The thesis that pathocentrism is preferable to anthropocentrism has almost become part of common sense and does not seem to stand in need of much argument. The view that human duties extend in some measure beyond mankind, into the realm of nonhuman animals, is common ground between otherwise quite disparate ethical standpoints. What is less clear, is how human duties towards animals are justified and how far they exactly go - whether, for example, they are essentially restricted to the human obligation to protect

animals from cruelty, or whether they include the duty not to kill animals prematurely, either for food, for sport or for any other kind of human benefit.

Defences of pathocentrism are frequently based on the thesis that not only humans but also sentient animals are bearers of interests and should therefore not be excluded from moral consideration. This is the thesis underlying Leonard Nelson's defence of the rights of animals. According to Nelson, animals are bearers of interests on the ground that they are beings endowed with consciousness. As possessors of interests, they have a legitimate claim to be given moral considerations alongside humans. Though they are not themselves moral subjects (i.e. subjects of moral duties) and do not enter into anything like reciprocal moral relations with humans, the possession of interests is, according to Nelson, sufficient to lay claim to a moral status. Humans, in their dealings with nature, ought to respect this moral status by taking the interests of animals duly into account.

At least one feature of this defence of the pathocentric approach seems to me problematical: the central role it assigns to the concept of interests. Partly as a consequence of the use environmental ethicists have made of it, the concept of interest has become notoriously unclear. Correspondingly, any conception of pathocentrism basing itself on this concept is open to misunderstanding. Nelson, for one, did nothing to clear the matter up. He simply assumed the notion to be sufficiently unambiguous to make it the basis of his claim that animals are proper subjects of moral rights. But "interest" can be, and is, construed in a variety of ways. Even what might be held to be a minimal condition of the ascription of interests, the possession of consciousness, is discarded by several authors. While according to the traditional (including Nelson's) concept interests can only be ascribed to individuals (or groups of individuals) endowed with consciousness (not necessarily self-consciousness), environmental ethicists such as Attfield and Teutsch ascribe interests also to plants and other natural objects with some kind of teleonomic organization, though denying them consciousness, however rudimentary.[3] Even if these authors should not be prepared to say that a certain tree "has" an interest in being given water during a drought period, they must at least be prepared to say that giving water to the tree is "in the interest" of the tree. Even that seems contrary to what most people find intelligible, if taken literally.

Admittedly, these are extreme cases. But even among those who restrict interests to sentient beings, it is far from clear on what capacities of consciousness the possession of interests is

to depend. If interests are construed as more or less articulate desires, they presuppose some capacity for thought and a certain amount of awareness of the non-immediate future. Only fairly intelligent animals would qualify as bearers of interests. For others, construing interests more liberally, the scope of the possession of interest coincides with that of the capacity for suffering. Naturally, under this construction, the class of beings with interests turns out to be much more comprehensive.

If it is hardly reasonable to defend pathocentrism as an ethical principle with reference to interests, how can it be done at all? Two ways seem promising: by referring to the intrinsic badness of suffering of conscious beings and the intrinsic goodness of their subjective well-being (or "pleasure"), and by recapitulating the more or less obvious deficiencies of purely anthropocentric justifications of the protection of animals.

What makes pathocentrism preferable to anthropocentrism is a very simple fact: its recognition that suffering is bad, no matter whether it occurs in human or in nonhuman animals. In so far as animals are subject to suffering they cannot be excluded from moral consideration. The crucial test for the inclusion of animals in the class of natural objects with moral status is Bentham's: "Can they suffer?" Not sentience is the point, but capacity for suffering. Sentience by itself can hardly matter, morally. There could well be sentience, i.e. some form of subjective awareness, without hedonic tone, either positive or negative. A sentient animal without the capacity to feel even rudimentary pains and rudimentary pleasures would count for nothing more, morally, than an automaton with a scanner attached to it to provide it with sensory information about the external world.

The second relevant consideration is that although even the most explicit propounders of anthropocentrism rarely question the duty of humans to protect animals from unnecessary pain, their attempts to account for this duty on anthropocentric premises invariably fail. A well-known example of a purely anthropocentric argument for the protection of animals from cruelty and from painful but pointless scientific experiments is that given by Kant. Kant's argument is consequentialist, though of a special sort: cruelty towards animals is morally wrong not because animals are made to suffer by it, but because it contributes to hardening men's feelings against each other and thus to undermining morality in its central, interpersonal application. It cannot be said that this particular piece of Kant's doctrine earned him much fame. Schopenhauer denounced it as simply morally outrageous. But one might as well wonder that Kant even went so far as to pay tribute to the protection of animals at all. After all, within the meta-

physical scheme of transcendental idealism, animals are nothing but "appearances" no less devoid of metaphysical substance than the rest of non-personal nature.

Kant's indirect argument is not only an illustration of the extreme artificiality of exclusively anthropocentric arguments against cruelty to animals, but also of their moral inadequacy. For surely animals have a legitimite claim to being protected from needless infliction of pain, fear, frustration and other kinds of suffering quite independently of the effects this has, or might have, on humans. They deserve to be protected from cruel treatment even when there is every reason to believe that other detrimental effects are not to be expected, neither to concrete human beings nor to abstract "morality".

3. Preferability of holism to biocentrism

These arguments are arguments from general plausibility, independent of any particular preconception of intrinsic value. The same can be claimed, I think, of the following argument designed to show that *if* natural objects devoid of the capacity to feel pleasure or pain are included in the class of natural objects deserving moral consideration, holism is preferable to biocentrism.

"Holism", taken as an ethical concept, has a number of different interpretations. On one interpretation, "holism" is a value-theoretical concept referring to natural wholes. "Holism" In this sense means that the whole of nature, or natural systems as wholes, carry intrinsic value over and above the intrinsic value carried by their components. Holism in this sense would assign greater intrinsic value to a forest than to the aggregate of the individual trees making up the forest.[4] On this interpretation, holism is a general approach rather than a concrete principle of environmental ethics. One important point on which holistic approaches have to be further specified is the extent to which intrinsic value is to be assigned also to natural systems which are modified, designed or even created by man.

The term "holism" has also been used for the view that intrinsic value should be assigned not only to living but also to non-living individual natural objects.[5] In this sense, holism is an extension of biocentrism, denying that there is any real boundary, as far as intrinsic value is concerned, between the living and the non-living in nature. Taken in this sense, holism is clearly preferable to biocentrism. It overcomes the central difficulty of biocentrism, the exclusiveness with which biocentrism singles out life as the only, or at least fundamental, good-making quality of

natural objects. For my own part at least, I confess to have the greatest difficulty in seeing why, if intrinsic value is ascribed to non-sentient nature at all, natural objects with the quality of life should be so radically privileged as they are by biocentrism. The question is: Why should life in the purely biological sense be intrinsically valuable, independently of any qualities for which the possession of life may be a necessary condition? Why should beauty, or wholeness, or symmetry, or complexity of organization, be of value in living natural objects and devoid of value in non living objects? It is interesting to note, in this connection, the "slip" in Albert Schweitzer's *Kultur und Ethik*, where he mentions, among others, the "crystal" as a manifestation of the "will to life" and its urge to perfection.[6] I take this as an indication of the fact that even Albert Schweitzer, a protagonist of biocentrism, was inclined to espouse holism when aesthetic and other gestalt qualities were at stake.

Nor am I much impressed by Robin Attfield's assertion that if the world of sentient beings should be completely annihilated it would be better if there was left a world of living things and not a world of purely unliving matter. Unless there is a chance, however slight, for the living things to evolve into life-forms endowed with some kind of consciousness, it seems to me that there is little to recommend the one over the other. Both prospects are equally bleak. Imagining that we are faced with a god-like choice between spectator-less worlds, a preference for the living over the unliving would seem rather arbitrary. Why not follow G.E. Moore instead and say that what matters in a spectator-less universe is the spectator-independent beauty contained in it, and that beauty may be better served by glaciers, crystals and rocks than by algae and amoebae?

Some statements of biocentrism are additionally vulnerable on other grounds. Schweitzer's ethic of "reverence for life" draws on specifically vitalistic assumptions which seem scientifically and metaphysically untenable. For Schweitzer, living nature was radically separate from unliving nature. For him, the principle of life was a "mystery", inaccessible to scientific analysis and making even the attempt at scientific analysis appear impious and irreverent. But life in the biological sense (to which this ethic is after all meant to apply) is not like that. Its nature and origin are no more mysterious than the structure of matter in general, and indeed far less mysterious than the emergence, in the physical universe, of the phenomenon of consciousness. What is known about life does not make life and its manifestations appear less impressive than it used to do. But it completely undermines any specifically vitalistic argument for biocentrism as against

holism.

4. Preferability of pathocentrism to holism

One feature makes the holistic approach to environmental ethics particularly attractive: its faithfulness to the experience of nature. However the details are filled in, holism is a far more genuine expression of an uncurtailed experience of nature than either biocentrism or pathocentrism. It is hard to deny intrinsic value to the things one loves, or admires, or experiences as aesthetically satisfying. Objectivity of value is an inherent quality of these experiences. And it is clear that the attribution of this objectivity is in no way restricted to living natural objects.

But the same feature that counts in favor of the holistic approach is at the same time a serious obstacle to its adoption. Though objectivity of value is an inherent and necessary feature of aesthetic experience (as well as of other, e.g. religious, kinds of experiencing nature), this objectivity is a feature *internal* to this experience. Viewed from the outside, it dissolves. Objectivity is necessary, but only as "notwendiger Schein". Even if it is a necessary feature of the experience of beauty that beauty is attributed to the object, as an inherent and autonomous quality, it remains nonetheless true that beauty is in the eye of the beholder. An indication (though by no means a proof) of this is provided by the degree to which people differ in their judgments, their attitudes, and their actual experience of the features that make natural objects valuable for them. The facts about the variety and relativity of aesthetic and other attributions of intrinsic qualities to nature are such as to make it seem ill-guided to attribute these intrinsic qualities to nature itself. They are more adequately conceived of as values for man - or even as values for nonhuman animals insofar as these have the capacity to enter into contemplative (as against instrumental) relations with their natural environment.

The last point is worth restating. What is claimed is that the general framework of pathocentric environmental ethics is not only perfectly sufficient to account for aesthetic and other kinds of value experienced in contemplative relations with nature, but that, in view of the variety and relativity of aesthetic and other sensibilities, it is the more adequate approach. It does not legislate what is valuable in nature but respects the multifarious and changing sensibilities of those who do the valuing. It does not fix, and thereby limit, what is and what will be of value. It rather leaves the options open, allowing future generations to make their own judgments and their own choices.

This consideration connects up with a further theoretically attractive feature of pathocentrism: its exclusive reliance on a value-premiss that is acceptable to everyone. The moral relevance of suffering is uncontroversial in a way in which the moral relevance of any other values or disvalues are not. To the extent that the intrinsic disvalue of suffering (the central value premiss of most pathocentric approaches) is a premiss universally accepted, the universal (in the sense of intersubjective) validity claimed by this premiss actually obtains, whereas the value premisses of holistic approaches are generally bound up with highly controversial metaphysical or other conceptions of nature for which a claim to universal validity cannot easily be justified.

5. Details of pathocentrism: well-being

It was said above that pathocentric approaches make the disvalue of suffering their central value premiss. Of course, there is no strictly logical reason why this should be so. Taken literally, "pathocentrism" means only that natural objects with the capacity for suffering are given moral status, and does not imply anything about the kind of values associated with this special class. In fact, however, unless a central role is assigned to the disvalue of suffering and the value of subjective well-being, there would hardly be a rationale for singling out the capacity for suffering as the criterion for inclusion. Preventing suffering is a canonical value of pathocentric ethics, even though additional values may be introduced.

One such potential additional value (of which it is not clear whether it is a separate value at all) is the value of the *existence* of animals with states of consciousness of a positive hedonic quality ("pleasure"). Obviously, the introduction or non-introduction of this value will be of some importance for the question of whether we are morally allowed to raise and to kill animals for food. Unless we count the existence of animals as an intrinsic value in its own right there does not seem to be any compelling reason why animals should not be killed for food, even long before their natural deaths.

This is not to deny that there are reasons for vegetarianism even with the prevention of suffering as one's only value premiss. I do not think, though , that these reasons are quite as good as Peter Singer, a philosophical vegetarian from exclusively utilitarian motives, has made them out to be.[7] Both reasons Singer gives for vegetarianism are of a broadly *demonstrative* kind: protest against factory-farming and protest against the wasteful use of cereals and other plants for the production of meat which might

just as well be used to feed the hungry. Even if it is granted that a boycott of the products of factory farming is effective in stirring public concern for the often intolerably low quality of life of animals subjected to factory farming, and to exert pressure on legislation in this regard, it does not imply wholesale vegetarianism. It only implies selective abstention from consuming the products of factory farming, including not only meat but also other products, such as eggs from battery-hens. The other reason given by Singer for demonstrative vegetarianism seems even less convincing. A change in the dietary habits of the industrialized world would by itself do nothing to improve the situation in the Third World. It would only reduce the overall quantity of cereals grown and it might even worsen the situation in some countries by reducing their exports.

Though there seem to be no compelling reasons for moral vegetarianism, this does not exempt all forms of painless killing of higher animals from moral criticism. The more intelligent the members of an animal species and the more capable of thinking of themselves as distinct beings existing over time, the more the painless killing of members of it will be morally comparable to the painless murder of members of the human species. Peter Singer has rightly pointed out that the death of one member of a pair, or group, of higher animals may lead to reactions of fear and sorrow in the remaining group similar to those exhibited by humans.[6] We rightly condemn the murder of political enemies in secret as a crime, even if the death of the political enemy was painless and not preceded by fear of imminent death. The justification of this reaction lies essentially in its side-effects, such as the fear and distrust caused by the "disappearance" of the man concerned. To the degree that killing animals can be expected to have comparable side-effects on other members of the species, the same considerations apply. The deliberate killing, for human purposes, of animals which we must assume to possess considerable cognitive and communicative capacities (such as dogs and cats) and perhaps even self-consciousness (such as apes, whales, and dolphins) cannot be much different, morally, from the deliberate killing of humans. To be morally permissible, they stand as heavily in need of convincing justifying grounds as the deliberate killing of humans.

6. Details of pathocentrism: being

Now, is the very existence of animals an intrinsic value? Would it on the whole be better if there were, ceteris paribus, more higher

animals with an overall positive quality of life? And if so, does this follow (as the "total view" of utilitarianism would have it) directly from the hedonistic basis of the pathocentric approach?

I think that for any conception of intrinsic value that does not only assign negative value to suffering, but also positive value to a pleasurable overall quality of life, the answers to all these questions must be positive. To show this, I shall outline an argument proceeding in two steps: first by arguing that the "repugnant conclusion" (as Derek Parfit has called it) of the total view is inevitable, however counterintuitive at first sight; second by arguing that what holds for humans must also hold for other animals capable of subjective experiences of pleasure and pain.

The first step does not need much argument. For a good of whatever kind, it must be preferable to have more of it, ceteris paribus, than less. This holds true no matter what kinds of intrinsic values are attached to subjective states such as pleasure, or to objective features such as beauty or the realization of potentials. If, as we have assumed, intrinsic value is primarily attached to subjective states of consciousness, the number of consciousnesses enjoying such states cannot be indifferent. An increase in the number of individuals enjoying a good or satisfactory life must be better than a reduction in the number of individuals enjoying such a life.

The same conclusion is suggested by the fact that we find it plausible to make numbers count where it is a question of losses instead of gains. No one who recognizes that suffering is bad, denies that it is better if there are less people who suffer than more. If this is admitted, it cannot consistently be denied that it is better if there are more people with satisfactory lives. The same must be true of animals. If animal suffering is bad and animal well-being good, it cannot be indifferent how many feeling animals have good or at least satisfactory lives. This does not imply that the optimum would be a planet teeming with human and higher animal life, leaving no room to species not directly or indirectly serviceable to the existence and well-being of higher life-forms. A "Calcutta-solution" in the realm of animals is as little called for as in the realm of man. The optimum is not to be obtained by maximizing the present population of higher animals but by maximizing the aggregate population of men and animals over their whole period of existence. It calls for *inter*generational, not *intra*generational optimization. The obligation to leave the environmental conditions intact on which the lives of future generations of higher animals depend must have the same importance relative to obligations towards animals living today, as obliga-

tions towards future generations have relative to obligations towards the members of our own species living today.

If the objection should be raised that these conclusions are wildly counterintuitive, I think it is a fair reply that as far as ethical principles (and not guiding principles) are concerned, reasoned principles should take precedence over "intuitions". What is commonly called intuitions in moral philosophy are the ethical beliefs handed down to us by tradition. They reflect not only underlying fundamental principles but also the historically and socially contingent circumstances of practical morality. In a fast changing society so-called intuitions are no more reliable a guide to adequate moral judgment than the technical procedures of yesterday for today's technical problems. Even a "reflective equilibrium" should be loaded to the advantage of theory and to the disadvantage of "intuitions". The situation is different with guiding principles. Since one of the desiderata of guiding principles is practical effectiveness, they must not too radically run counter to the pre-theoretical intuitions to which people incline.

If questions of quantity are given due weight, the existence of satisfactory animals lives cannot be denied intrinsic value. This consideration makes the painless killing of higher animals for food again appear in a different light. On the one hand, painlessly killing an animal which would otherwise have gone on having a satisfactory life is a reduction in the overall quantity of well-being unless the killing is necessary to secure the existence or maintenance, or significantly raise the quality, of other conscious lives, both human and nonhuman. On the other hand, this consideration does not strengthen the case for vegetarianism but considerably weakens it, since non-vegetarians can be expected to provide for the existence of a greater number of higher animals than vegetarians. Of course, the existence of a greater number of higher animals counts against vegetarianism only if the existence of the extra animals is not so exclusively organized in the interest of food production to make it unsatisfactory or even intolerable for them.

7. Reverence for life as a guiding principle

There can be no question that Albert Schweitzer's doctrine of "reverence for life" is seriously deficient both as a principle of general and as a principle of environmental ethics. Most of these deficiencies have been aptly pointed out by Helmut Groos in his monumental study of Schweitzer's work.[9] Taken as a principle of

general ethics, reverence for life is paradoxical in so far as it morally condemns any termination of life that is not itself necessary to maintain or produce life. It would not only condemn all suicides except those that are committed in order to save the lives of at least two other human or nonhuman beings, but also any kind of population control designed to raise the average quality of life, the cutting of weeds for aesthetic reasons, even the extermination of harmful species of insects, fungi and bacteria that threaten the health and well-being of men and animals but not their lives. Taken as a principle of environmental ethics, Schweitzer's principle appears unsatisfactory on other grounds. "Reverence" is an attitude primarily directed to pre-existing objects, especially to objects having a long history. It therefore tends to encourage excessively conservative approaches to environmental protection. If life as actually found to exist is holy, to be revered instead of being manipulated, then nature is sacrosanct. It is something to be protected, but not to be improved, even if its present state is deeply unsatisfactory in ecological, aesthetic or sanitary respects and even if its present state is almost completely due to human intervention in the past.

All this does not preclude the principle of reference for life to be attractive as a guiding principle - at least as a guiding principle in a weak and cognitively perfectly innocuous sense.[10] In this weak sense, reverence for life would entail two things: first, a presumption (in the legal sense) for the preservation and against the extermination of life; second, the establishing of emotional attitudes towards living nature which, without strictly excluding the destruction of parts of it, make it an intensely felt requirement to be given convincing justifying reasons for any project involving direct or indirect destruction of living nature. As a rule of presumption, reverence for life implies that the burden of proof for any annihilation of life lies with the destroyer, not with the preserver. As an attitude, it provides the emotional backing needed if this rule is to be consistently observed.

My reasons for thinking reverence for life a suitable guiding principle are of a functional character and vary with the fields of application. In its application to animals, reverence for life might help to establish a general inhibition to kill or to harm animals without evident necessity. Whereas according to pathocentrism, only animals with the capacity for suffering are to be protected for their own sakes, it seems illusory to assume that human attitudes can be so finely tuned to the moral differentiation between animals with and animals devoid of these capacities as to inhibit cruelty with the former but not with the latter.

It cannot generally be expected that the emotional attitudes presupposed by appropriately stable and reliable tendencies to action function like the exact mirror-images of what is morally right in any possible situation. I earnestly doubt whether it is realistic to think that we can establish the mental habits and attitudes necessary for preventing cruelty to animals capable of suffering without also involuntarily protecting many species of animals not capable of suffering. One reason for this is the improbability that human sensibilities function in strict accordance with whatever is the objective truth concerning animal suffering. Human sensibilities generally react to outer behavioral cues symbolically linked to internal suffering, but not necessarily objectively correlated with it. The contortions of a worm which has been cut with a knife may not correspond to any felt pain, but are certainly so strongly suggestive of it that the inhibitions of many people to subject it to the treatment are easily understood. Even those who are firmly convinced that insects cannot feel pain feel an inhibition to tear out wrings or legs from flies. However "irrational" these attitudes may seem from a strictly objective point of view, they can be seen to be "rational" in a sense if looked upon as inevitable "spill-over effects" of our having inhibitions against cruelty to animals at all.

There is a further rationale for following a comprehensive guiding principle in our treatment of animals: our ignorance as to where to exactly draw the line between animals capable of suffering and others. In restricting the protection of animals to mammals, or warm-blooded animals, or vertebrates, we run the risk of excluding animals capable of suffering though phenotypically so far removed from mammals or birds as not to inspire spontaneous empathy. If our guiding principle, viewed from a God-like perspective, is "too comprehensive", it is better if it exaggerates by doing animals too much good than by doing them too much harm.[11]

A different explanation is called for whenever the guiding principles of reverence for life is applied to plants, ecosystems and entire biological species. With them, following the guiding principle cannot be explained as a simple extension from some members of a class to all members, but must be justified in a more indirect way. Part of the justification has been given by Aldo Leopold in the context of his "land ethic" (which was a guiding principle rather than an ethical principle[12]): the complexity and time scale of the processes triggered off by human action in the biosphere. Even if downright anthropocentrism should be the right ethical principle concerning the environment, and human survival, human health, and human well-being the only ultimate aim, the causal chains leading from here and now to there and then seem far

too long and far too involved to recommend anthropocentrism as a guiding principle. Understanding and adequately assessing the indirect and long term effects of ecologically significant impacts on the biosphere make heavy demands on human rationality, too heavy demands, certainly, to be a significant motivating force for the average individual. To achieve motivation, some more immediately plausible orientation is called for. Reverence for life, understood as an attitude that discourages human interference with natural processes unless necessitated by convincing reasons, seems well suited to play the role of a more immediate motive of this kind. The other part of the explanation is even more frankly instrumental: It is doubtful whether obligations to future generations are so urgently felt that they by themselves provide the motivation necessary for the acceptance of policies demanding some measure of present sacrifices and lost opportunities. Not everyone can be expected to support environmental policies from which not he himself, but uncertain future generations will profit. In the light of this, it seems plausible to assume that on the whole the interests of future generations are better served if the natural environment is protected for its own sake. Even purely anthropocentric aims like saving the living conditions of mankind and the aesthetic resources of the earth from deterioration cannot be attained, it seems, without shattering the predominance, in the industrialized world, of the attitudes of domination, control and exploitation associated with anthropocentric ways of thinking.

Biocentrism as a mere "cunning of reason" may not appeal to everyone. For my own part, I cannot conceal that I would rather do without it. It should, however, be borne in mind that the interpretation I have given to "guiding principles" makes them principles of a very weak and uncommittal kind. Adopting such principles in order to have one's actions and attitudes guided by them is a far cry from *sacrificium intellectus* or any other kind of self-imposed schizophrenia.

Universität Essen

NOTES

1. Robert Spaemann, "Technische Eingriffe in die Natur als Problem der politischen Ethik", in Dieter Birnbacher, ed. *Ökologie und Ethik*, Stuttgart, 1980, pp. 180-206, esp. 197.
2. Cf. Laurence H. Tribe, "Ways not to Think about Plastic Trees: New Foundations for Environmental Law", *Yale Law Journal* 83 (1974), pp. 1315-1348, esp. 1330 f.
3. Robin Attfield, *The Ethics of Environmental Concern*. Oxford, 1983, p. 145; Gotthard M. Teutsch, *Lexikon der Umweltethik*, Göttingen/Düsseldorf, 1985, p. 17.
4. Holism in this sense was part of Aldo Leopold's "land ethic". See his "The Land Ethic", in *A Saund County Almanac and Sketches Here and There*. New York, 1949, pp. 201-226, esp. p. 204. A much weaker position might also be termed "holism", the view that natural systems or the whole of nature have *derivative* value over and above their components. Taken in this sense, it is no distinct position in environmental ethics, but part of most pathocentric and biocentric conceptions.
5. Klaus M. Meyer-Abich, "Vom bürgerlichen Rechtsstaat zur Rechtsgemeinschaft der Natur", *Scheidewege* 12 (1982), pp. 581-605.
6. Albert Schweitzer, *Kultur und Ethik*, München, 1960, p. 302.
7. Peter Singer, "Utilitarianism and Vegetarianism", *Philosophy and Public Affairs* 9 (1979/80), pp. 325-337.
8. Peter Singer, "Animals and the Value of Life", in Tom Regan, ed. *Matters of Life and Death,* New York, 1980, pp. 218-259, esp. p. 248.
9. Helmut Groos. *Albert Schweitzer, Grösse und Grenzen*, München/Basel, 1974, p. 543.
10. The idea of interpreting reverence for life not as an ethical principle but as an ethically required attitude was put forward by George Seaver as early as 1944 (cf. Helmut Groos. *op. cit.*, pp. 528 ff.). The idea of introducing Schweitzer's principle as a guiding principle in the sense of the present paper is John Passmore's (cf. his *Man's Responsibility for Nature*. London, 1974, p. 124).
11. Roughly the same idea was expressed by T.H. Huxley: Considering the terrible practical consequences that might ensue from any error on our part, it is well to err on the right side, if we err at all, and deal with them as weaker brethren. ("Animals and Human Beings as Conscious Automata", in Joel Feinberg, ed. *Reason and Responsibility*, Encino/Belmont (Cal.) 1978, pp. 264-272, 270.

12. Cf. Leopold's own characterization of the status of the "land ethic": "An ethic may be regarded as a mode of guidance for meeting ecological situations so new or intricate, or involving such deferred reactions, that the path of social expediency is not discernible to the average individual", (*op. cit.*, p. 203). That Leopold conceived of his "land ethic" in functional terms is also suggested by other passages, see especially p. 214.