NATURE ETHICS WITHOUT THEORY

by

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This work presents a case against the need for moral theory in nature ethics. A theory is not needed to bridge a gap between facts and values. One is not needed to handle crisis cases. Nor is one needed to extend the moral circle of care beyond human beings. Ordinary moral reasoning will suffice. To show this, moral cases are made for a vegan diet, and against the use of animals in research. The moral theorist is then left with this dilemma: either the details of a moral issue are enough to settle it, thus rendering a moral theory unnecessary, or the details are not enough, but neither is any moral theory. In place of theory, a moral vision is sketched, one which is at once contemplative, feminist, anarchist, pacifist, anti-capitalist, and pro-nature.

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DEDICATION

For Mom and Dad,

To Whom I Owe Everything

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CHAPTER I

OVERVIEW

We face a global environmental crisis. Everyone should know this by now. The problems are daunting: acid rain from factory pollution killing forests throughout North America and Europe; lethal air pollution from automobiles and factories over major cities like Los Angeles and Mexico City; the immense topsoil loss, water depletion, and water pollution from modern factory farms in the United States; nuclear waste and toxic waste contamination from nuclear power plants and nuclear weapons plants in the United States; radiation contamination throughout Europe from the Chernobyl disaster in the Soviet Union; the stunning disappearance of the last few remaining rainforests around the world, in Central and South America, and in places like Indonesia and the Philippines, primarily due to cattle-raising; the turning to desert of major areas of the Earth's surface, in the western United States, Africa, the Soviet Union, and China, again primarily due to cattle-raising; massive sewage pollution killing fish and other living organisms in the Mediterranean Sea; the "greenhouse effect" from trapped carbon dioxide in the atmosphere,

increasing global temperatures and leading to major climate changes; the ever-enlarging Antarctic "ozone hole" now exposing major cities in Australia and South America to deadly ultraviolet radiation, radiation which also kills the microscopic phytoplankton at the base of the food chain in the oceans; massive hunger and homelessness throughout the Third World due to war and long-standing social injustice; the threat of nuclear war and worldwide terrorism; the survival of whaling on the part of Japan, Iceland, Norway, and the Soviet Union; the continued slaughter of dolphins by tuna fishermen; the massive use and abuse of animals in medical, scientific, military, and commercial research; the breeding of evermore virulent strains of disease causing agents by the overuse of antibiotics, pesticides, and herbicides in modern industrial farming--the list goes on.

This global crisis confronts us with the great moral challenge of our age. Which side are we going to be on--the side of continued destruction, or the side of radical recovery? If this isn't clear right now, it should become clear as we consider in detail the issues of diet and animal research later on.

What I would like to ask here is this: what can moral philosophy offer to help us meet this environmental crisis? Can moral philosophers assist us in ways that no one else

can? Well, moral philosophers certainly understand themselves as offering us something unique and special, something we can't get by without, and something we can't get anywhere else. What is this unique and special thing? Moral theory. Moral philosophers are in the business of providing us with moral theories.

It will help to be precise here about just what a moral theory is. For one thing, having a moral theory is not the same as having a moral vision. It is important to note this because down the road I will sketch out a certain moral vision, and it is definitely not intended to be a moral theory. A moral vision is just a "big picture" of an ideal moral life, a kind of living example of what virtuous people look like, a model to help guide and inspire one in one's daily life. A moral theory, on the other hand, is a much more ambitious thing than a moral vision.

I think that it is fair to say that a moral theory is supposed to do three things:

1. It answers the moral skeptic; that is, it provides an answer to the question: "Why should I be moral at all?"

2. It explains the nature of our moral judgments; that is, it answers the question: "Are moral judgments objective or subjective judgments?"

3. It provides a decision procedure for solving the moral problems which we may face; that is, it uncovers

those general principles which make up the moral life, principles which determine how we should act, principles which thus either underwrite a particular moral vision, or which cancel the need for a moral vision altogether.

These three objectives need not be unrelated, of course. A particular moral theory, for example, might make use of the moral principles uncovered, or of its account of the nature of moral judgment, in answering the moral skeptic. In turn, the way a particular moral theory answers the moral skeptic may help determine the kind of account of moral judgment it gives, or the kind of moral principles it uncovers.

Thus, a moral theory is a quite precise and ambitious thing. It may even have other objectives, in addition to these three. These are at least the ones that I can clearly see in what moral philosophers have traditionally done.

"Moral theory" described in this way does not cover everything moral philosophers do or have done. For example, it may not pertain to the work of John Rawls' in his highly influential A Theory of Justice. A moral theory in Rawls' sense may have other goals and objectives than those I characterize. Thus, Rawls' work will lie outside the scope of the criticism which I bring against moral theory.

However, I do maintain that moral theory in the sense

given here picks out an important tradition within moral philosophy, one that exerts a dominant influence over the new field of nature ethics. One has only to look to the majority of articles which appear in the journal Environmental Ethics to see that tradition at work.

Now the issue of moral skepticism goes back to at least the Greek sophists. Plato's Republic can in fact be seen as one grand sustained effort to answer the moral skepticism of the sophist, Thrasymachus. I think that this issue has been handled handsomely by others.[1] So I will say very little about moral skepticism in this work.

What I will say about moral theories will bear mainly on the second and third objectives. One way of supporting the need for moral theory is to argue as follows: "Simple, direct engagement with a moral issue is not enough. No matter how rich the details of a particular moral case, those details won't in themselves justify our considered moral judgment in the case. The reason is this: there is a significant gap or break between facts and values. What is the case does not in itself determine what ought to be the case. Something more than the details will be needed to bridge that gap. Thus, we need a moral theory to explain how we can bridge that gap between fact and value. Until we have such a moral theory, our considered moral judgments will lack rational justification."

If this line of argument is correct, then it certainly spells trouble for me! For I want to claim just the opposite. I want to claim that the details are enough, that careful attention to the particulars of a moral issue is all we need in order to form good moral judgments, and that the details of a case provide all the rational support we could want for our considered moral judgments.

So what I try to do in "Fact and Value" is to add something to the ongoing effort to undermine a certain background picture of the world which philosophers are likely to have which supports the claim that there is a gap between fact and values. Undermining that background picture will also mean casting doubt on a particular strategy which moral theories use to achieve their three objectives. The strategy I have in mind is what philosophers call "ontology." I would describe ontology this way: it is a retreat into a very abstract, schematic background world whose inhabitants are entities called "objects," "properties," "events," "states of affairs," "facts," "propositions," and so on, all of which are considered to have natures appropriate for investigation. When moral theories come on the scene, they move into this world of ontology, and often populate it further with entities called "moral agents," "moral subjects," "intrinsic value," "rights," "duties," "interests," and so on.

What I try to show in "Fact and Value" is that undermining the background picture of the world which supports the gap between facts and values is at the same time to undermine the background world of ontology, for the background picture is simply a picture of the world of ontology.

In "Crisis Cases" I then go on to consider another argument in support of the need for moral theory. That argument can be put this way: "We must be consistent in our moral lives. We must be prepared to handle crisis cases in a way consistent with the way we handle ordinary moral cases. Only a moral theory can "force" us to be consistent in this way. Moreover, the way a moral theory handles a crisis case can be used as either evidence in its favor or counter-evidence against it." In order to defuse this argument, I take a look at what crisis cases are really like, and discover that they are not in fact matters of decision at all. Thus, there is no issue here about consistency. Crisis cases are not matters to be made consistent with other moral cases.

Then in "The Need for Theory," I survey the types of moral theories being proposed in contemporary nature ethics,[2] and give special attention to the one advocated by Paul Taylor. Each of these theories encounters problems of one sort or another. They all come with heavy price tags, so to speak. I don't try to "refute" any of these

theories, but rather suggest that instead of paying the high prices associated with them, we seriously consider another alternative--namely, that we try to get by in nature ethics without a moral theory. In order to add support to this suggestion, I examine the background picture which these theories have of our ordinary moral reasoning, and find it quite implausible.

In "Moral Vision" I go on to sketch a moral vision which I consider capable of helping us respond to the global crisis we face. I variously call this vision "the paradise vision," "the radical deep-green moral vision," and "the radical vegan moral vision." There is nothing sacred about any of these terms. Each of them is simply suggestive of certain features of the overall moral vision. As a matter of fact, there is nothing sacred about the notion of "moral vision" itself. I do not propose it as something which stands on all fours as a direct alternative to moral theory. It's not as if one <u>has to have</u> a moral vision to fill the void left by moral theory. So I won't lose face if someone digs in his or her heels and insists that he or she doesn't have a moral vision, and doesn't need one. I may doubt that the objector has genuine self-knowledge in this matter, but that is neither here nor there. My only point is that many of us do seem to need a moral vision to help us move around in the moral life, and

I present this one, the paradise vision, as the one I think we need.

In the light of this vision I present the case for a vegan (total vegetarian, no animal products) diet as the only moral diet, and in addition, go on to present the vegan/abolitionist case against the use of animals in medical, scientific, military, and commercial research. In "The Moral Theorist's Dilemma," I then use these examples of real-life moral reasoning to help leave the moral theorist with one final dilemma:

1. Either the details of a particular moral issue will be enough to settle it, thus obviating the need for a moral theory;

2. Or the details will not be enough, and neither will any moral theory.

Finally, I close by returning to remark on those features of the paradise vision which call out for much further exploration. These include the contemplative features (what I call "openness to mystery"), the feminist features, the anarchist/pacifist features, the anti-capitalist features, and the vegan/pro-nature features.

All of this then is my way of understanding what moral philosophy can in fact offer us to help meet the crisis of our planet. On my way of seeing things, moral philosophy can offer both negative and positive help. It can clear

away the false need for theory which moral philosophy itself throws up to us, and it can then help articulate a deeply satisfying moral vision of human beings living in peace and harmony with the rest of the natural world, and in the light of that vision, help us work through the real-life moral issues we face.

Let us begin then on all of this with "Fact and Value."

Notes

[1]For responding to moral skepticism, and defusing the question, "Why should I be moral at all?", I recommend Renford Bambrough, Moral Skepticism and Moral Knowledge (London: Routledge & Kegan Paul, 1979), and John F. M. Hunter, Thinking about Sex and Love: A Philosophical Inquiry (London: St. Martin's Press, 1980), pp. 143-168.

[2]"Nature ethics" is a better title than "environmental ethics." The "environment" suggests something remote, abstract, and separate from ourselves, something that has now become a "problem." "Nature" is more redolent of our rich lives together with our fellow creatures in a living world. For this suggestion, see Marti Kheel, "The Liberation of Nature: A Circular Affair," Environmental Ethics, Vol. 7, No. 2 (Summer 1985), p. 135.

CHAPTER II

FACT AND VALUE

Moral philosophers often talk about a "gap" between facts and values. What do they mean by that? They could mean several different things. They could simply mean that to say that such and such _is_ the case is not the same as to say that such and such _ought_ to be the case. In other words, "is" does not mean the same as "ought." Now that seems innocent enough. However, they could mean something rather different. They could mean that whenever someone says that such and such _is_ the case, it is always possible to go on to ask whether such and such _ought_ to be the case. This does not seem so innocent. Suppose, for example, that life were such that we could now say that men have stopped raping women. What sense would it make to ask whether that _ought_ to be the case? It seems immediate and obvious that it _should_ be the case.

However, some moral philosophers would respond that although what ought to be the case may be immediate and obvious in some cases, we have not simply derived that "ought" from the facts of the matter, from what is the case. The factual premises of an argument will not by

themselves generate a conclusion about what ought to be done. One or more premises containing an "ought" will have to be supplied to make the argument valid. For example, one cannot conclude directly from "Rape harms women" that "One must not rape." One has to add the premise that "One must not harm others." One might call this an "inferential gap" between facts and values. Facts of the matter do not by themselves determine what our values should be.

Such an inferential gap between facts and values could be seen as a mere logical nicety if it were not for two other things. One is that human beings disagree, sometimes even violently, about many moral matters. This widespread lack of moral consensus could be taken as showing that moral matters are merely "subjective" matters, that in moral issues there is really no such thing as "getting it right" or "getting it wrong." Any logical difference between facts and values could then be seen as further evidence that while facts are "hard" matters of discovery and confirmation, values are merely "soft" matters of choice and decision.

The other thing is the way philosophers view science. Science is seen as giving us the final word on the way things are, and the way things are, according to science, is "physical." The world is simply a vast arena of physical stuff going on. Just "atoms and the void," as the

ancient Greek Atomists would say. Such a world is at best an accidental and precarious home for human beings and human moral values. Human beings have to work like mad to impose some moral order upon such a world. There is no natural moral "fit" to the world, and no guarantee that human moral values will win out or be vindicated in the end.

Talk of a gap between facts and values can now be seen as one way of expressing this view of the human condition. So lack of moral "fit" between human beings, and lack of moral "fit" with the physical world of science blow up any inferential gap between facts and values into something more than an odd fact about logic. Thus, a fact/value gap becomes a part of what one might even call "modern common sense."

Moreover, I would claim that the fact/value gap receives support from a certain background picture which philosophers tend to have. This is a picture both about how language works, and about how science works. Roughly put, the picture says that language works by our attaching bits and pieces of it to bits and pieces of a language-independent world. Likewise, science works by discovering the "world's language," that is, by constructing a language whose bits and pieces fit on exactly to the bits and pieces of the world as it really is, independent of any language.

Undermining this picture about language and science should go a long way toward undermining the claim that there is a nontrivial gap between facts and values. It should also serve to free us from the worry that human disagreement over moral matters must show that such matters are merely "subjective" in nature. We would be free to consider the possibility that disagreement may at times signal real moral blindness on the part of some people. At other times it may indicate a genuine moral dilemma for which there is no "best" answer. However, neither possibility need threaten the fact that for a range of central clear cases, there is plenty for a person to get right or wrong in the moral life.

Undermining the picture about language and science should also serve to help free us from the grip of that vision of the world stemming from the Greek Atomists. Putting science in its place should help us to challenge the view that the world is simply a blind mechanism hostile to human moral values. Later on I will sketch a moral vision which stands in sharp contrast to that of the Greek Atomists. Deciding between them will of course be a matter of one's deepest considered judgments as one goes about living one's life.

Let's begin then with the picture about language. This picture has roots deep within the western tradition

in philosophy. However, its modern form stems primarily from Frege's work in logic, and from the work of Tarski and others on model theory in mathematics. On this modern picture, sentences are seen as decomposable into names and predicates (or equivalently, arguments and functions, or singular terms and general terms). Names and predicates in turn get their meanings by being correlated with particular objects or collections of objects respectively from some domain or world of objects. Setting up such a correlation between a language and a world of objects is said to be giving that language an "interpretation," and a world of objects correlated with a language in this way is said to be a "model" for that language.

Now the picture seems innocent enough in logic and model theory where the languages in question are formal languages, the sentences of which are all complete, grammatical, and declarative, and where the domains or worlds in question are composed of antecedently well-understood items (usually numbers, spaces, or other mathematical structures). However, things no longer remain innocent once we bring the picture over to our ordinary languages, and expect it to do certain philosophical work for us.

In the case of logic or model theory there is no problem for us to correlate certain syntactic items with various objects. There is no problem because we do this

from within language, so to speak. We are already able to say all sorts of things about the objects being correlated, and we are also able to do all sorts of things with them. A three-year-old child who can already speak pretty well can do as much in playing various games with her blocks and other toys in which she lines them up or groups them in various ways. But this is precisely what we cannot do in the case of our ordinary languages and the language-independent world to which they are supposedly connected. We cannot occupy some external position, outside any language whatsoever, in order to see how connections are made between language and the world, or in order to make those connections.

The problem is this: our picture of language and the world is supposed to be a picture of how our words mean what they mean, of how meaning is possible. We give meaning to our words by connecting them to items in the world as it is in itself, independent of any language or thought. Our problem is making sense of those connections. What the picture of language and the world is supposed to explain is how we are able to use words at all, how it is we are able to speak and make sense. Yet the explanation offered presupposes the very ability to be explained. This becomes evident once we ask how it is we are able to make the connections between language and the world. Suppose,

for example, that we are to connect the word "rabbit" with rabbits. To do that requires that we be able to identify rabbits. But being able to identify rabbits is in part to understand what rabbits are. Yet understanding what rabbits are, being able to make sense of the word "rabbit," is what the picture of language and the world is supposed to explain. The ability to be explained shows up in its own explanation. Thus, nothing has been explained. No real explanation has been given. Connecting language to the world presupposes that the connection has already been made.

Moreover, this problem will not go away even if we retreat to the world of "thought"; that is, it won't help to distinguish the ability to use the word "rabbit" from the ability to understand what rabbits are, and then say that the former ability is dependent upon the latter. This only pushes the problem back one step, for now the question becomes how we are to understand the relation between thought and the world rather than language and the world. Explaining that relationship will also involve appealing in the explanation to the very abilities to be explained, namely, our abilities to identify and pick out items in a world independent of language and thought. Again, no explanation will have been given.[1]

One might think that bare pointing will do the trick,

but that won't work either. Pointing and gesturing only make sense against the background of what we go on to say. What gets singled out in a case of pointing is always a matter of what we are able to say gets singled out. One could put it that pointing itself is a move already within language. Pointing does not break us out into a world without language.[2]

There are traditional ways of reacting to this problem with the picture of language and the world. One is the way of "skepticism," to deny that we can ever know whether we have successfully identified items in the world or not. Another is the way of "idealism," or in recent terms, "anti-realism." All the various idealisms or anti-realisms share this in common: they agree that the notion of a language-independent or thought-independent world does not make sense, but then conclude that therefore the world must be thought-dependent and language-dependent. In other words, they collapse the picture of two polar opposites, language and the world, simply to a picture of language. Both skeptic and idealist view our situation as one of being "locked inside" language and thought. For the skeptic, there is no getting to what is "outside." For the idealist, there is no outside to get to. I will not concern myself with these positions in what follows. I will take it as given that they are profoundly unattractive.

There is yet another traditional way of responding. This is the way of "ontology." Ontology is the enterprise of discovering what are the most basic categories of items in the world independent of language and thought. In effect, ontology sidesteps any difficulty with the picture of language and the world. It views the picture as so intuitively compelling that it must be right, despite difficulties. There simply is nothing else to think in this basic area of how meaning is possible. Thus undederred, ontology goes about its business of devising arguments to show that the world contains basic items like "objects," "properties," propositions," facts," and so on. I claim that we should not find the enterprise of ontology attractive either, and that we should not begin our moral thinking from within the abstract, schematic world which ontology creates. My reasons will emerge shortly.

One way of taking the primitive picture of language and the world which supports the enterprise of ontology is to accept that our connecting language and thought to the world presupposes that some connections have already been laid down. Since on this picture meaning is a matter of correlation, this would mean that not all meaning could be conventional since not all correlations could be conventional, could be a matter of what we intentionally do. Some meaning would have to be intrinsic. Some signs,

presumably the mental ones, would have meaning by reason of being intrinsically correlated with items in the world. Such intrinsic correlations would have to be understood as being laid down by either God or nature. This way of taking the primitive picture has thus underwritten all the recent efforts at constructing causal theories of meaning and reference. The hope would be to explain intrinsic semantic connections as a species of causal connection. However, such an enterprise faces difficulties which strike me as insurmountable.[3] There is no reason to think anyone will be able to reduce the semantic to the causal. If that is the case, then this is not a viable way to save either ontology or the primitive picture of meaning as correlation.

I would suggest that the proper way to respond to the picture of language and the world is neither skepticism, nor idealism, nor ontology. It is rather to take the incoherence of the picture to heart, to accept that we cannot give it a clear sense. What we should then do is step back, and reexamine our original puzzlement which led us to ask how is meaning possible, or how is language possible, or how is thought possible. Perhaps we will find that those questions don't have a clear sense themselves. We might even find that we can get on perfectly well without any picture at all of how language relates to the world.

This should be the end of our concern with the picture about language. Unfortunately, it can't be. Some who would still cling to the picture have another response. They think that science provides that access to the world from within language which we seek.

Bernard Williams puts the response this way:

> . . . there is no suggestion that we should try to describe a world without ourselves using any concepts, or without using concepts which we human beings can understand. The suggestion is that there are possible descriptions of the world using concepts which are not peculiarly ours and not peculiarly relative to our experience.[4]

Notice that the response concedes the point that it is incoherent to try to characterize a language-independent world without using language. However, on this view, all is not lost for the distinction between language and the world. We can still make sense of what Bernard Williams calls "the absolute conception of reality."[5] The absolute conception is the conception of the world as it is in itself. However, it is not arrived at by trying to get outside of language. It is arrived at by extrapolating to that ideal endpoint of convergence of all scientific inquiry which Charles Sanders Pierce argued for. The absolute conception of reality is that ultimate unified account of the world which would be attained by ideal researchers under ideal conditions.

This absolute conception would be "absolute" in that

it would explain all the various appearances which the world presents to various observers from various perspectives. It would explain these appearances in terms of those invariant features which the world has in itself, those features which do not vary from perspective to perspective, and which account for how it is the world looks from different perspectives. For example, the end of an upright oil drum presents various elliptical appearances to someone viewing it from above at various angles.[6] The roundness of the end of the oil drum is an invariant property which it has independently of any observer, and which explains the various ways it can look to different observers. In like manner, the claim is that the aim of science is to uncover those invariant properties which stand to the world as roundness stands to the end of the oil drum. Hence, descriptions which can appear in the absolute conception of reality, descriptions of the world as it is in itself, will be descriptions which are observer-independent, and which are also perspective and point of view-independent. In this sense, the absolute conception of reality will be (in Thomas Nagel's phrase) "the view from nowhere."[7]

This then is the picture about science which has been brought in to shore up that picture about language which we thought was on the way out. There is no more seductive

picture than this one about science. One might even call it the modern myth, and as with any myth, this one about science is the source of great superstition and confusion.[8]

For one thing, the talk of convergence is mere bluff. Such talk may have seemed plausible in the days when philosophers thought that there was such a thing as "the unity of science," and such a thing as the scientific method. Such unity was thought to be secured by the reduction to (or derivation from) physics of all the special sciences. Looking at how the various sciences actually work has made it clear that such reduction or derivation is not a serious possibility. Moreover, looking at how the sciences actually work has made it implausible to think that there is some one method shared by all the sciences, and which could be interestingly encapsulated and formalized.[9]

Furthermore, it is seriously confused and misleading to characterize physics or the other sciences as describing or giving an account of the world, as if there were some well-understood whole or totality which a scientist could then set about working on. "But doesn't physics describe everything?" cries the physicalist! Even here in the supposedly privileged case of "the generality of physics," what we see, if we are sober about it, is that physics displays a special concern with certain features of all

those things which can be said to be physical in nature. Physics talks about everything all right, everything that can be said to have a physics, that is. But to be about everything even in that sense is not to say, or even to try to say, everything about that everything.[10] There is certainly plenty of room for other sciences to work on the chemistry or biology or ecology of things, and so on.

"But everything in physics' sense of everything is everything; that is all that really exists," cries the physicalist again. To say that is to beg a very big question indeed, or perhaps better, it is simply to talk nonsense. The problem is that whether that "really" of the physicalist makes sense or not depends upon whether the very picture about language and science which we are examining makes sense or not. That "really" of the physicalist is not like either of the following uses of "really." Suppose you say to me, "That hole in the ozone layer over the south pole is really larger than what they're letting on, did you know?" "Really? It is?" I say, and then go speeding off to try to check out your story.

What the physicalist thinks makes sense is that certain ways of saying true things are somehow closer to the truth than other ways of saying true things. It is as if one could say what is true period, and yet somehow fail. Of course, we do understand this sort of thing in special

contexts. A student turns in a final exam on Plato, and somehow manages to forget to treat the theory of forms. Your five-year-old runs out to you while you're chopping wood to say that there's water on the kitchen floor, but doesn't say that he has just been trying to give the family dog a bath in the upstairs bathtub. We understand what it would be to give a more complete account of the truth in situations such as these. What the physicalist wants, though, is to talk about closeness to the truth period, in an absolute sense, outside any context whatsoever.

Again, it is that primitive picture of language and the world which seems to make this possible. Recall that on the picture of science in question science supposedly aims for correlation with the world as it is in itself, independent of language and thought. Moreover, science tries to achieve this ultimate attachment to the world by fashioning ways of talking which are independent of all observers, perspectives, and points of view. However, why should one think that such ways of talking are really possible, or better, that the very notion of absolute observer-independence even makes sense? Consider again the example of the oil drum. We do understand what it is to say that the upturned end's being round is true regardless of the perspective from which it is being viewed. Yet, does this make being round or other shapes and sizes

observer-independent in the absolute sense required by the picture of science? I think not. Notions of size and shape, as well as notions of measurement, are still our notions. Our measuring devices have to be tools which we can use after all. Our ways of talking are hardly independent of the kind of creatures we are, creatures with a particular physical makeup and a particular history.

The myth about science seems blind to such mundane facts. Furthermore, the myth about science (and it is just as much a myth about mathematics!) seems oblivious to the fact that both science and mathematics have histories, histories which involve human choice and decision. Historians of science are now quite good at reminding us about just how much theory construction and theory choice in the sciences are matters of what we find plausible, simple, and elegant, and of what we think will pan out, what is a good hunch, and so on. Likewise in the history of mathematics, the introduction of signed integers, infinitesimals, transfinite cardinals, and now proof by computer, among many other cases, were hardly inevitable foregone conclusions. Such historical changes were at least in part a result of what we find surveyable, what aspects we find striking, what structures interesting, what analogies fruitful, and so on.[11] Unmindful of this, we do silly things like including copies of mathematical theorems

within our outer space probes, as if we thought that intelligent life elsewhere would have to share our mathematics.[12]

I hasten to add that to point out that science and mathematics are not observer-independent in any absolute sense is not to be committed to the opposite extreme either. It is not to say that science and mathematics are "observer-dependent" in some interesting sense. It is not a claim meant to support idealism or anti-realism. To say that science and mathematics have histories and reflect the kinds of creatures we are is not to say that we are somehow locked inside our language or thought or "conceptual schemes." That view goes with clinging to one pole of that primitive picture of language and the world. Denying that science and mathematics are observer-independent in the physicalist's sense is just to deny that they occupy "center stage" among human practices.

On a sober view of these matters, it hardly seems tempting to think that mathematics and the natural sciences, especially physics, are ways of getting closer to ultimate truth. It would seem that the only way the physicalist, the one in the grip of the myth about science, can hold onto that myth is in the end holding on after all to that primitive picture in which language is hooked onto a language-independent world. The physicalist has to hold

onto that picture in order to try to give content to the notion of "getting closer to the truth." In order to make sense of such a notion, the physicalist must maintain that there is some language-independent goal for language to shoot for. What else could that goal be except the way the world is in itself, independent of language and thought? The way the world is is simply the truth, the facts of the matter, and this is what science aims for. In other words, in order to maintain the myth about science, that science hits the target best, the physicalist must hold out for a target. That means holding on to the other myth, namely, that there is a language-independent world which gives meaning to the words of our language and makes our sentences true. It should be clear that this myth about science simply won't do. It cannot be a fallback position once the picture about language is questioned, for the myth depends upon that picture to give it sense.

One might think this realist picture of language and science could be saved by an appeal to inference to the best explanation. The argument would be that the overall success of science is best explained by taking scientific theories to be true. Science works because it does give us access to the world as it is in itself, independent of language and mind. This argument fails on two counts. For one thing, it is not clear that it is better to say that

science works because it is true rather than it works because it is reliable. The pragmatist appeal to reliability seems to explain just as much as the realist appeal to truth. The realist notion of access to the world does not seem to do any explanatory work. For the other thing, appeal to inference to the best explanation begs the question. The anti-realist about science does not admit that the explanatory success of theories invoking quarks is sufficient evidence for the existence of quarks. Yet the realist about science wants to argue that the explanatory success of realism, the hypothesis that science gains access to the world, is sufficient evidence for the existence of the world. There is no reason for the anti-realist to accept this.[13]

Now, at long last, we should be able to see the bearing of all of this on the supposed gap between facts and values. That gap opens up when one gets caught staring at that picture about language and the myth about science. For on that picture about language, ontology will say that the world, the way (or ways) it is, is decomposable into "the facts." These will be said to be either existing "states of affairs" or certain "propositions." These in turn will most likely be said to be composed of "objects" along with "properties" and "relations." Moreover, on the myth about science, what science gives us is a world of

value-free facts, a world stripped of all value. So the job for moral philosophers would seem to be to explain how it is possible to get value back into such a value-free world, or how it is that the world is not value-free after all, even though science supposedly says it is. Recent Humeans like J. L. Mackie and Simon Blackburn take the first line and claim that through our attitudes and actions we project value onto the world (even though we may be unaware, and even deny, that this is what we are doing).[14] Recent moral realists take the second line and either try to identify values with certain natural facts (thus, showing that those facts are not really value-free after all), or try to show that facts about values are determined (in some sense) by, or supervene upon, the value-free facts.[15]

So exposing the hidden nonsense in the picture about language and the myth about science should go a long way toward showing that these recent projects of moral philosophers are misconceived. If the world of facts doesn't make sense, then of course science can't give us such a world, and so we need no longer think that our first order of business as moral philosophers is to come to terms with such a world of value-free facts.

Moreover, getting rid of that primitive picture about language should help in another way to cast doubt on the

idea of a gap between facts and values. That primitive picture encourages us to think of whatever we talk about as things, for words get their meanings after all by being correlated with objects in the world. (Ontology systematizes this thought: names denote objects; predicates express properties or relations; sentences express propositions, states of affairs, or facts; gerunds denote events or states, and so on.)

For example, the philosopher in us hears expressions like "They both said the same thing," "What was said was quite convincing," "Please say something," "What I expressed at the meeting was well-received," and is led to treat them as being on all fours with expressions like "They both ate the same thing," "What was served was quite exotic," "Please eat something," and "What I ate did not agree with me." The former expressions are taken to refer to objects of some sort just as the latter expressions refer to food. So the category of "propositions" is introduced into ontology to serve as those objects referred to, and the philosopher in us thinks that we have made a discovery, almost on a par with coming upon a new kind of food.

Moreover, all of these abstract objects introduced into ontology in this way, "objects," "properties," "propositions," and so on, take on the aura of "super-

objects." They are taken to reveal to us what is "deepest" and "most real" about the world. Talking in terms of "super-objects" even becomes the special privilege of philosophers. One is not a "real" philosopher unless one talks ontology.

All of this would be a bad joke if the practice of ontology were not so deeply embedded in modern philosophy. Yet what reason do we have for treating these very general expressions of our language as if they introduced "super-objects?" None at all, it seems to me. The innocent, sane response should be to say straightout that the "emperor has no clothes," that what the philosopher in us does with our language is horribly crude and flat-footed. Ontology is simply no way to understand the general terms of our language. It is wildly implausible, and simply generates pseudo-problems for philosophers to work on. Moreover, I think we can say this without having any sort of theory of meaning of our own to back us up. We can surely see without benefit of theory that the favored general expressions of ontology are in fact "soft and flexible, collapsing at the very points on which we wish to hang something when doing philosophy."[16]

Wittgenstein describes our situation this way:

> We think we are standing on the hard bedrock, deeper than any special methods and language-games. But these extremely general terms have an extremely

> blurred meaning. They relate in practice to innumerable special cases, but that does not make them any solider; no, rather it makes them more fluid.[17]

Thus, ontology is vulnerable from two directions. Its effort to squeeze "super-objects" out of certain general expressions of our language seems forced and implausible. Moreover, recall that the "super-objects" introduced are supposed to be language-independent. We have yet to be given a coherent account of how we can have cognitive and semantic contact with such items.

Peter Hacker gives what I think is the correct verdict on ontology:

> Hence there is no such subject as ontology. If ontology is a study of what really exists, it is science, not philosophy. The questions 'Do dodos (Tasmanian tigers, unicorns) exist?' are intelligible questions, which it is not the business of philosophy to answer. The questions, 'Do material objects (events, properties) exist?' are pseudo-questions constructed on the model of genuine questions. The task of philosophy is not to answer them, but to show that they are nonsensical.[18]

The death of ontology should mean the death of the fact/value gap. Giving up on the world of "super-objects" should mean giving up on thinking of facts and values as things between which a gap might open and connections would have to be made.

This brings us to that final challenge mentioned at the outset. Someone might concede all of this, and yet hold out for the claim that there is still something to be

made of the fact/value gap. Doesn't the fact/value gap come down to this: can't we always ask whether what is the case really ought to be the case? If so, then isn't that enough to show that there is an inferential gap between descriptive statements and prescriptive ones?

This challenge seems to presuppose both that a clear distinction can be made between descriptive and prescriptive language, and that moral reasoning is primarily a matter of making inferences. Both of these presuppositions seem highly dubious. For one thing, some philosophers have been at it for quite some time over this matter of a clear distinction between description and prescription. We have no reason to think that success is forthcoming. For example, suppose you and your spouse are in the birthing room with your new baby. Is it even imaginable that someone could walk in and say, "Oh, what a beautiful baby! Are you having it for supper?" Or is it imaginable that you or your spouse could say, "Dear, should we name her Eight or Ten?" As Cora Diamond has pointed out, it is part of our very notion of a human being that we don't eat one another and that we don't give one another numbers rather than names.[19] For another example, consider the hammer in your tool box. That is not the sort of thing you bring to the supper table and lay on top of your food. The point is that prescription is woven right into our ordinary

descriptive terms.

Take the philosopher's favorite example of a descriptive statement: the cat is on the mat. Is it a serious question that that "merely" descriptive statement somehow leaves it open that I could go on to contemplate setting the cat on fire? Of course not.

There should be plenty of doubt about the claim that moral reasoning is mainly a matter of making inferences. There should also be doubt that moral situations always, or even normally, involve moral reasoning. You hear your child crying out in the yard, and see that she has a gash in her forehead. You immediately run out to her. Has any reasoning gone on let alone moral reasoning? If I say that some sort of reasoning must have occurred, that only shows that I insist upon seeing us as mechanisms or computer-like, and that shows that I am still in the grip of that myth about science.

What I think we are entitled to say is that ordinary moral situations (like that of your child crying in the yard) do not reveal any "gap" between facts and values, between what is the case and what ought to be the case. Neither do cases of moral failure or moral puzzlement. Take the case of South Africa. That is a horrible case of moral failure. There is certainly a gap there between what is the case and what ought to be the case. It is the

straightforward gap between what the government there is doing and what it should be doing. But that is not the sort of gap which the philosopher has in mind. Consider also moral puzzlement. I may be puzzled about how I should respond to the case of South Africa. Should I support armed resistance there or not? Here again we don't have the sort of gap which the philosopher wants. We just have the gap between what I know and what I could possibly do. Normally, to close puzzlement gaps like this one, I need to learn more, more about what is going on, what could go on, and what I could contribute.

It is rather odd, isn't it? When we actually go looking for the fact/value gap, we can't find it! We should have suspected as much.

The fact/value gap is a philosopher's fantasy. It is a direct result of not seeing through the primitive picture about language and the world, and the related picture about science.

Can we learn to sharply reject those pictures?

If we can, then (as Wittgenstein would have put it) we can begin to do ethics at the beginning, and not keep trying to begin further back.

Now all of this very abstract philosophers' talk does have a direct bearing upon whether we need a moral theory in order to do nature ethics. Recall that a moral theory

is supposed to answer the moral skeptic, explain the nature of our moral judgments, and provide a decision procedure for moral problems. What is important to see is that the moral philosopher conceives of these tasks against the background of that primitive picture of language and science which we have just looked at. Certain problems arise precisely because the moral philosopher begins with that picture. What is accepted without question is the world which science gives us, the world of value-free facts, the world of ontology. To answer the moral skeptic, to show that it is rational to be moral, will now be a matter of showing how moral values fit into such a world of value-free facts. Explaining the nature of our moral judgments, thus further displaying the rationality of our moral practices, will be a matter of showing how we either find values in, or fit values into, the world of value-free facts. Providing a decision procedure for moral problems will be a matter of finding values, or fashioning values, in particular cases. A moral theory will thus provide a "foundation" for our moral practices by fulfilling these tasks.

However, a sense of "threat," a felt need for foundations, only comes from staring at that world of value-free facts. Once the picture of that world dissolves, as it should, so should the sense of threat, or the craving for

foundations. One can then see how to answer the moral skeptic, as far as the moral skeptic requires answering, without resorting to a theory about the world of ontology. The same goes for displaying the nature of our moral judgments, in so far as anything still requires displaying.

Moreover, rejecting the world of ontology will have a great impact upon how we proceed in nature ethics. Retreating into the very abstract, schematic background world of ontology drastically restricts what we can see and say. It produces a kind of "starvation" in moral philosophy. For example, once in the world of ontology, moral philosophers only seem to be able to talk about "interests," or "rights," or "sentience," or "intrinsic value." Moral reasoning itself becomes simply a matter of detecting and comparing a few general features like these.

I should point out that rejecting ontology would not preclude the use of abstract, general terms in ordinary moral reasoning. One could still appeal to notions like "moral status" and "intrinsic value" if they should prove helpful. There can be an "innocent" use of such expressions. They can be used free of pretensions to ontology. If such terms help to focus attention on important features of a moral situation, then we should feel free to use them. The objection to ontology is an objection to a false necessity. Ontology makes us think we <u>must</u> use these

terms. Such terms are supposed to provide "deeper" accounts of a moral situation because they are terms which describe the way things really are, independent of language and mind. However, rejecting ontology's account of such expressions still leaves us free to use them whenever they prove helpful.

One might even put it like this: it's as if the world of ontology is a world of "monocultures." Very few items are permitted to grow there, and patterns of growth are strictly rule-governed. However, we should know by now that monocultures are a bad way to go. In both farming and forestry, they eat up the soil and lie open to invasion. Monocultures are poor ecology. So why go that route in our intellectual and moral lives? Why live in a mental and moral world of monocultures?

Dropping the monocultures, dropping the world of ontology, should mean that we can place our trust in the "good ecology" of the actual details of the moral issues which lie before us. We can give ourselves over to those details without fear that some gap will open up between facts and values, and without fear that we will simply get lost if we don't have a few general theoretical notions to hang onto. In presenting the case for a vegan diet, and the case against animal research, I hope to show that such trust in the details is indeed well-founded. We can do

nature ethics without resorting to ontology, theory, or monoculture.

Notes

[1]William E. Davie, "The World Without Us," (manuscript).

[2]Ludwig Wittgenstein, Philosophical Investigations (Oxford: Basil Blackwell, 1958), Nos. 28-64.

[3]For the difficulties with causal theories of meaning, see Stephen Schiffer, Remnants of Meaning (Cambridge, Mass.: MIT Press, 1987), and Lynne Rudder Baker, Saving Belief: A Critique of Physicalism (Princeton: Princeton University Press, 1987), pp. 23-110.

[4]Bernard Williams, Descartes: The Project of Pure Enquiry (Harmondsworth: Penguin Books, 1978), p. 244.

[5]Williams, p. 245.

[6]John F. Post, The Faces of Existence: An Essay in Nonreductive Metaphysics (Ithaca, N.Y.: Cornell University Press, 1987), p. 67.

[7]Thomas Nagel, The View from Nowhere (New York: Oxford University Press, 1986).

[8]Gilbert Ryle, "The World of Science and the Everyday World," Dilemmas (Cambridge: Cambridge University Press, 1954), pp. 68-81.

[9]John Dupre, "The Disunity of Science," Mind, Vol. XCII, No. 367 (July, 1983), pp. 321-346.

[10]Post, p. 205.

[11]Gordon P. Baker and Peter M. S. Hacker, Wittgenstein: Rules, Grammar and Necessity (Oxford: Basil Blackwell, 1985), pp. 287-307.

[12]Peter M. S. Hacker, Appearance and Reality (Oxford: Basil Blackwell, 1987), p. 192.

[13]Arthur Fine, "Unnatural Attitudes: Realist and Instrumentalist Attachments to Science," Mind, Vol. XCV, No. 378 (April, 1986), pp. 149-179.

[14]John L. Mackie, Ethics: Inventing Right and Wrong (Harmondsworth: Penguin Books, 1977); Simon Blackburn, Spreading the Word: Groundings in the Philosophy of Language (Oxford: Oxford University Press, 1984), pp. 181-223.

[15]Post, pp. 251-283.

[16]Peter M. S. Hacker, Insight and Illusion: Themes in the Philosophy of Wittgenstein, revised edition (Oxford: Oxford University Press, 1986), pp. 205-206.

[17]Ludwig Wittgenstein, Remarks on the Philosophy of Psychology (Oxford: Basil Blackwell, 1980), I, No. 648, quoted in Hacker, Insight and Illusion, p. 205.

[18]Hacker, Insight and Illusion, p. 206.

[19]Cora Diamond, "Eating Meat and Eating People," Philosophy, Vol. 53, No. 206 (October, 1978), pp. 468-469.

CHAPTER III

CRISIS CASES

Here is a crisis case for you: you are out for a Sunday drive with the family on our interstate highway system. While you are crossing one of its many bridges, the bridge collapses, plunging you and your family into an icy river several hundred feet below. As your car slowly sinks, you struggle free and fight your way to the surface for air. You plunge back down to try to reach your car before it sinks out of sight. You reach your car and find your husband or wife unconscious in the front seat, and your two-year-old and six-year-old both unconscious in the back seat. You don't have the time and the stamina to try to save all of them. You can probably save one. You might even be able to save two. What should you do?

It is certainly natural to want to jump right in and try to solve this case, and cases like it. It is natural, but is it also shortsighted in some way? I think moral philosophers are typically shortsighted in handling crisis cases, and I will try to show why in what follows.

Consider this classic way of using crisis cases in nature ethics. Tom Regan has argued that nonhuman sentient

creatures possess intrinsic value, and hence, are the bearers of moral rights, precisely by reason of being sentient.[1] The attractiveness of this position is that it enables one to say quite clearly why animals should always be treated as ends in themselves, and never merely as means to human ends. As one might expect though, there is a utilitarian response. Peter Singer argues that nonhuman sentient creatures have interests by reason of being sentient, and that such interests should be given equal consideration to our own in our moral deliberations.[2] Just how human interests and nonhuman interests should be weighed against one another in any conflict case will be a matter of seeing among possible courses of action where lies the greatest satisfaction or frustration of desire, whether human or nonhuman.

Singer would like to show that his utilitarian account in terms of interests, desires, pleasures, and pains is superior to Regan's Kantian account in terms of intrinsic values and moral rights. Singer presents Regan with the following crisis case:[3] suppose you are in a lifeboat situation. The lifeboat is crowded. There is room for only one more occupant. There is a human being and a dog left struggling in the water. Which one will you save?

Singer thinks it certain that Regan, and every other sane person, will say that in this crisis case the human

being should be saved, and the dog left behind. (For present purposes we need not consider Edward Abbey. Abbey is famous for saying things like: "I'd sooner shoot a man than a snake. Snakes are endangered.") Singer contends that Regan, in choosing the human being over the dog, is forced into the position of admitting that in any conflict of basic rights, the rights of a human being will always override the rights of any nonhuman creature. However, to admit this, Singer goes on, is to reveal that the Kantian's talk of rights for nonhumans comes to no more than the utilitarian's talk of interests. For rights are nothing if not protection in tough cases against the more powerful. To Singer, the lifeboat crisis case shows that it would be better to drop talk of rights altogether, and to simply speak in terms of adjudicating a conflict in basic interests between creatures of differing degrees of psychological complexity. In other words, the crisis case is meant to refute an entire moral theory.

Of course, Regan sees the crisis case this way too, in that he sees it as a challenge to which he owes an answer. So we now have Regan trying to show just why it is animals still have basic moral rights, although their rights are not such as to oblige us to save them rather than fellow human beings in lifeboat crisis cases.

It is natural to want to follow this dispute out to

see who wins. However, I think it more instructive to ask this: should Regan have taken the bait? Should he have seen the crisis case presented as posing a problem of consistency for his other considered moral judgments? To put it another way, suppose we decide to save the human being rather than the dog in the lifeboat crisis case. What, if anything, follows from that for our other moral judgments? Again, suppose you decide to save your two children rather than your husband or wife from the sinking car. Does anything of moral significance follow from that? In other words, what we really need to ask is this: what role, if any, should crisis cases play in our moral thinking?

Well, philosophers aside, what role <u>do</u> such cases play in our moral thinking? As Wittgenstein advises, let's look and see. Consider the case of the plane crash survivors who resort to human cannibalism, eating the flesh of their dead fellow crash victims, in order to stay alive until help arrived. What do we say here? Do we say that since these survivors may be justified in what they did, our ordinary moral ban on cannibalism is therefore somehow suspect, and now open to question? Certainly not. Again, do we say that because of this survivor case, we must now draw into question our ordinary talk of human rights? We don't say this either.

Here is another typical textbook crisis case: the brakes on your car suddenly fail. If you continue straight ahead, you will hit a young child who has run into the street. If you swerve to the left, you will hit the child's four grandparents. If you swerve to the right, you will hit the child's expectant mother. What should you do? Again, do we treat what one decides to do in such a case as fixing for us what we should do in various ordinary cases? For example, suppose we decide to swerve to the left, hitting the grandparents, but sparing the child and mother. Are we now to think that senior citizens really count for very little, that age is always a morally relevant consideration, or that the numbers never count, that four can always be sacrificed to save two or three? Of course, we don't think any of this.

Yet one more example: the classic burning building crisis case. Suppose you return home to find your house on fire. Your husband or wife and your mother are both trapped inside. You might be able to save one. Which one should you choose? I suspect that decisions may vary a bit more on this one. Yet, whether they do or not, our main point still seems to hold. Whatever our decision is in such a case, we don't think that it should force our hand when faced with various other noncrisis cases involving conflicts between spouse and parent. For instance, suppose

you say you would save your spouse rather than your mother in the fire. Are you now to think that you are committed to siding with your spouse against your mother in every case which comes up, no matter what the morally relevant circumstances? This seems most implausible.

Yet doubt lingers. The philosopher in us would still like to insist that our moral thinking in these crisis cases is governed by the same principles which govern our moral thinking in ordinary cases. We must be consistent after all. What would our moral lives be if our moral decisions did not somehow fit together with one another? Our lives would be a shambles. Morality would be a joke.

Iris Murdoch has suggested that we always ask what a philosopher is afraid of. It seems pretty clear what the philosopher in us is afraid of in this matter of crisis cases. We fear chaos. We fear anomalies, for anomalies suggest chaos. Moreover, anomalies seem an affront to "the dream of reason." Our scientistic culture craves power and control. Hence, it craves explanations which will give it that power and control. The philosopher in us is hardly immune to such craving. The philosopher's paradigm for understanding the moral life, shared by both Kantians and utilitarians, is that of a few, simple, universal principles which explain all of our current moral practices, and which will serve as a decision procedure in handling

new cases. This paradigm is hardly questioned anywhere. To suggest that crisis cases may not fit together neatly with ordinary cases in our moral lives is certainly to question that paradigm.

Yet even if we grant all of this stuff about craving control and fearing anomalies, the philosopher in us persists, don't the crisis cases still fit together with the ordinary cases after all? Aren't there principles which capture them both? Take the burning building crisis case involving your husband or wife and your mother. Isn't the relevant principle here the following: other things being equal, your commitment to your spouse always takes precedence over your commitment to your parents? This principle wouldn't entail, of course, the philosopher in us goes on, that we would actually side with our husband or wife in every case. The principle simply captures a general feature of our moral obligations. It shows us in what direction our moral duties normally lie.

Now this line of thought certainly sounds plausible. It even seems persuasive, until one begins to press on the notion of "other things being equal." The trouble is other things are never equal. To add that rider to a rule or principle is sheer bluff. It is to admit that one does not in fact have a rule or principle, at least not in the sense of something which provides necessary and sufficient

conditions for its application, or which could serve as a decision procedure for handling new cases. With the rider attached, at most what one has is a rule of thumb or a handy synopsis of a range of cases.

Such a rule of thumb is not really what the philosopher in us is looking for. Rules of thumb are only of help to those who know how to use them, those who already have the relevant skills in hand. The philosopher in us wants rules and principles which formalize, and hence replace, such skills, rules and principles which can be used in the same way by just anyone (of minimal rationality, of course). The moral life is seen as a region of skills and practices which are basically formal, rational, and problem-oriented. Feelings, emotions, and passions are at best external sources of energy for, or providers of problems to, the cognitive powers which form the central core of our moral lives.

So there is an almost overwhelming urge on the part of the philosopher in us to view our moral lives as one homogeneous interconnected region open to rational mastery. The philosopher in us must find rules there, even if this means introducing something less than strict rules, namely, rules with "other things being equal" riders. This craving for rules seriously distorts our understanding of the moral life. Great damage is done when we insist on treating

crisis cases on a par with all other cases. Damage occurs both when we fail to treat a crisis case as a crisis case, and when we mistake a noncrisis case for a crisis case.

Let's consider each mistake in turn. First, the failure to treat a crisis case as a crisis case. I take it that the issue of abortion is an outstanding example of just this failure. Let me explain. The debate among philosophers about abortion has been primarily one concerning the moral status of the fetus. Is the fetus a human person? Does the fetus have a right to life? Can the rights of the fetus ever be overridden by any of the rights of the mother? These questions go on. They are quite familiar to all of us. They have by now a certain staleness to them.

Consider the standard arguments on both sides. The pro-fetal advocate argues that the fetus has the moral status of an adult human being because it potentially is one. Response: we don't always treat potential x's as actual x's. What special reason do we have for doing it here? The pro-fetal advocate then argues that the fetus has full moral status because it is biologically continuous with something which has full moral status. Response: segments along a continuum don't always share relevant properties in common; for example, all segments of the color spectrum don't share the same color. So what special

reason do we have for thinking that all segments of a biological continuum have the same moral status? There seems to be no reason to think in either case that such special reasons are forthcoming.

The pro-mother advocate in turn argues that the mother's right to autonomy and her right to bodily integrity outweigh any rights which the fetus may have. Response: on this pro-woman view, birth marks an overwhelming moral divide, for before that point the fetus can be treated as a mere part of the woman's body, but not afterwards, although the newborn is still totally dependent upon the mother. How can this be? How can birth count for so very much? Moreover, isn't all this talk of autonomy and control more male patriarchal stuff which women are being encouraged to buy into? I take it that adequate responses to these worries have not been forthcoming either.

Now what should quicken our interest here is not so much that the same unconvincing arguments keep being trotted out on both sides. Rather it is what philosophers have <u>made of</u> the abortion issue. Our complaint should be not that moral philosophers have made too little of the abortion issue, but rather that, in a certain sense, they have made <u>too much</u> of it. Moral philosophers have seemed unfaltering in their confidence that they at least know

what kind of issue abortion is. In that confidence they have swept right past what the call of the women's movement has really been. I take it the real call has been for power over the issue, not decision within it; that is, the real question about abortion is whose issue is it, and what kind of issue is it. Moral philosophers for the most part, even those who are "pro-choice," have been basically deaf to this. They have taken abortion to be a moral issue like any other, amenable to rational decision procedures, procedures which will issue in decisions which will be decisions for just anyone.

The feminist call is to see that abortion can quite often be unlike ordinary moral situations, or even unlike moral quandaries or dilemmas. It can be a genuine moral crisis case. To see it as a crisis is precisely not to see it as subject to any general solution good for everyone which can be worked out in advance. To fixate on general solutions as moral philosophers tend to do obscures from view the real nature of the crisis women face in an unwanted pregnancy, and the real nature of the support which they need in facing it.

Now consider the reverse mistake which the craving for rules gives rise to, namely, mistaking a noncrisis case for a crisis case. I take as an example a certain defense of animal experimentation. We are supposedly justified in

engaging in vivisection because we face a crisis, cancer or AIDS or the Soviets, or whatever. There is nothing else we can do. We must experiment on animals in order to gain the vital information necessary to combat these dreaded killers.

In considering such an argument, it's important to keep in mind that crises, like accidents, happen infrequently. If the same sort of accident happens frequently to the same person, we may no longer consider it a "mere" accident. Usually what we do in such situations is revise our view of the person involved. Someone who frequently gets cuts, bruises, or broken bones is called "accident-prone." Someone who frequently gets involved in traffic mishaps is considered a very poor or dangerous driver. Someone who usually comes late to class is no longer considered conscientious. Someone who usually strikes out with the bases loaded is not considered a "clutch hitter." The same thing is true on the positive side. Someone who usually gets the answers right is considered a good student. So when the "infrequent" becomes frequent, we see what takes place as revealing something, either good or bad, about a person's attitudes, abilities, or character traits.

The same is true of crises. Crises are to be avoided, not repeated. One might even say that <u>that</u> is the very

point of a crisis: learn how not to face this again.[4] Hence, someone who keeps getting involved in moral crisis cases may be open to the charge of not being morally serious. Consider, for example, what we would say of a woman who continually takes up with men who abuse her. Moreover, this point is not threatened by the case of those who claim to thrive on crisis situations. Such people are not speaking of moral crisis cases in our sense. Rather, they have in mind certain stressful, high-tension situations, which are nevertheless exhilarating because of the skill and daring which can be displayed in them, for example, speculating on the stock market. Moral crisis cases are not like this. They are matters of unsought and unwelcome tragedy, not episodes in personal adventure.

So if no efforts are made to learn, and no steps are taken to avoid, then it seems poor form indeed to claim that what one is facing is a crisis, and that one is entitled to the extreme measures which might be justified in a genuine crisis situation. Vivisectionists do precisely this. They are wedded to their methods, and have no intentions of giving them up. Although a few token nonviolent alternatives have been turned up due to extreme outside pressure, these people are hardly in a position to claim that all reasonable efforts have been made to avoid a crisis. Hence, they are not justified in crying "crisis" now.

Again, crises are to be avoided, not repeated. Crisis cases are special cases (which hopefully most of us will never have to face). We countenance things there which we would not countenance otherwise. As Stephen Clark puts it, "what we do, because we must, in no way licenses what we may do in the ordinary course of events."[5] Clark's remark is well worth dwelling upon. Not only does it support our claim that crisis cases need not be made consistent with ordinary moral cases, but it also helps us see why this is so. In moral crisis cases, we do "what we do, because we must." In other words, unlike ordinary moral cases, or even unlike moral dilemmas, moral crisis cases are not matters of decision at all. Both in ordinary moral cases and in genuine moral dilemmas, we are confronted with situations in which there are genuine alternatives. In such situations, it will make sense to say that we "decide" or "choose" to do such and such. We may even have the "space" in which to consider, ponder, mull over, or even brood. None of this is true in genuine crisis cases. Crisis cases force us to act, to do something. So whatever we do, we do under duress. We act because we must, not because we decide or choose to do this or that. In other words, crisis cases do not present us with genuine moral alternatives. They do not present us with some right thing to do. They are extreme situations in which one is forced

to act as best one can. This is the deep reason, I would suggest, why asking "What should you do?" at the end of the "drowning family" case or the "burning house" case strikes us as "queer" or "funny." There is no matter of "should" here at all. There are no real moral choices to be made in such cases. Crisis cases are on the very "fringe" of human action, so to speak. They do not need to be brought into line with what lies at the "center."

This is especially important for the Regan lifeboat crisis case. Letting an animal die in such a case, if we do, should say nothing about the moral place of animals in the rest of our lives. It does not say that we are of greater moral value, and most definitely does not say that animals are of no moral value at all. It should also be clear that such cases do nothing in the way of deciding the outcome of mock battles between Kantians and utilitarians. Moreover, it should be clear that crisis cases do not support the claim that we need a moral theory in order to do nature ethics.

A final comment. The deep need to handle crisis cases by means of rules and various hierarchies of values strikes me as typically male. Elizabeth Dodson Gray suggests a different approach to the moral life, one more typical of women as they go about raising children:

> The point is that we parents continually find some ground for making our decisions, grounds other than ranking our children in some hierarchy of their worth. What we perceive instead is that our children have differing needs, differing strengths, differing weaknesses. And occasions differ too. It is upon the basis of some convergence of all these factors that we make our decisions. And our decisions are always made within the overriding imperative that we seek to preserve the welfare of each of them as well as the welfare of the entire family.[6]

We do need more of this in moral philosophy.

Notes

[1]Tom Regan, The Case for Animal Rights (Berkeley: University of California Press, 1983).

[2]Peter Singer, Animal Liberation: A New Ethics for Our Treatment of Animals (New York: The New York Review of Books, 1975).

[3]Peter Singer, "Ten Years of Animal Liberation," The New York Review of Books, 31 (January 17, 1985), pp. 46-52; "The Dog in the Lifeboat: An Exchange," The New York Review of Books, 32 (April 25, 1985), pp. 56-57.

[4]Brigid Brophy, "In pursuit of a fantasy," in Animals, Men, and Morals, ed. by Roslind and Stanley Godlovitch and James Harris (London: Methuen, 1971), p. 125.

[5]Stephen R. L. Clark, The Moral Status of Animals (Oxford: Oxford University Press, 1977), pp. 87-88.

[6]Elizabeth Dodson Gray, Green Paradise Lost (Wellesley, Mass.: Roundtable Press, 1979), p. 148. For a detailed discussion of moral quandaries, see Edmund L. Pincoffs, Quandaries and Virtues: Against Reductivism in Ethics (Lawrence: University Press of Kansas, 1986).

CHAPTER IV

THE NEED FOR THEORY

We should now look at the various kinds of moral theories which have been proposed in recent work in nature ethics. What do they actually say, and what difficulties do they encounter? Do they represent something of genuine value which would merit our continued interest in them?

The first thing to notice is that all the theories agree on where to start. As expected, they all begin in the abstract world of ontology, populated with various entities like "objects," "properties," and "propositions." They then add a certain "moral dimension" to this abstract world. The abstract world of ontology becomes a "moral world" that is composed of "moral agents" and "moral subjects." Moral agents are capable of deliberating about what they do, and normally are capable of making decisions, and acting in accord with their deliberations. Moral agents have duties and obligations to moral subjects. Moral subjects in turn are whatever is within the moral "circle of care," so to speak, whatever has "moral standing" or "moral status." Moral subjects possess rights and privileges which moral agents are morally constrained to

honor. All moral agents are of course themselves also moral subjects, but the class of moral subjects is wider than that of moral agents. Not all moral subjects are themselves in turn moral agents. Human infants and the infirm are examples of moral subjects who are not also moral agents.

Our question then is this: just how wide is the class of moral subjects? Does it include all and only human beings? It is characteristic of at least most of the philosophers working on nature ethics that they have argued that restricting the class of moral subjects to human beings will block the possibility of an adequate moral response to our environmental problems.[1] Drawing the circle of care at the species line is considered just as arbitrary from a moral point of view as drawing it at the color line or the gender line. Speciesism (the morally arbitrary bias in favor of the human species) is seen on a par with sexism and racism as a form of injustice which human societies must learn to overcome.

Where then should we draw the circle of care? What, if not species membership, determines membership in the class of moral subjects? A very natural, and very popular, move has been to say that the ability to suffer is what makes a moral subject.[2] So the circle of care extends to the sentience line. All and only sentient creatures, creatures with at least the minimal consciousness to feel

pleasure and pain, are moral subjects.

This position, often called sentientism, has been popular with both Kantians and utilitarians. Utilitarians of course want to say that being a moral subject is a matter of having desires. Since the most primitive desire seems to be the desire to avoid pain, having desires itself is a matter of having the ability to suffer, that is, being sentient. So being a moral subject is a matter of being sentient. Sentience is the necessary and sufficient condition for being included within the circle of care.

Kantians on the other hand see being a moral subject as a matter of being a person, where being a person is primarily a matter of being rational and being autonomous. (Since being rational and being autonomous are in turn a matter of being able to deliberate about what one is to do, and of being able to act on one's deliberations, the notion of being a person in fact coincides with the notion of being a moral agent.) Being a moral subject then is primarily a matter of being a moral agent for Kantians, but of course they prove willing to extend the circle of care to include at least infants and the infirm, since infants and the infirm are judged to be related in morally significant ways to the central cases of moral subjects (for instance, infants will soon become persons and moral agents).

Kantians interested in nature ethics have also proved willing to extend the circle of care as far as the sentience line.[3] The main thought behind this willingness seems to be that in order for members of other species to be enough like persons to be considered possible moral subjects, they must be sentient. On this view, nonsentient creatures are just not person-like enough to be considered moral subjects.

Serious objections have been raised against sentientism. The utilitarian version with its emphasis on eliminating suffering would not seem to be able to handle the case of factory farms which anesthetized their animals, or the case of sport hunting in which the killing was done painlessly.[4] At least the Kantian version of sentientism which ascribes moral rights to all sentient creatures can handle cases like these. However, both versions of sentientism would seem to be committed to a highly dubious policy of protecting innocent sentient creatures from their natural predators.[5] For if we morally committed to protecting innocent human beings from attack, regardless of whether the attacker is a moral agent or not, why are we not likewise so committed in the case of any other sentient creature?

Yet, even if sentientism can produce a plausible response to a problem like this, it still faces a much more

serious difficulty. It seems ill-equipped to take on a central problem of our environmental crisis, namely, rapidly accelerating species extinction.[6] There are two aspects to this difficulty for sentientism. On the one hand, most of the species threatened are species of non-sentient creatures. On the other, the problem is about species, not individuals, and sentientism, as an extension of person-centered human ethics, focuses on the moral standing of individual sentient creatures, not on species. Sentientism would even seem to be incapable of favoring a sentient member of an endangered species over sentient members of other species, whether wild or domestic. Sentientism is simply prepared to treat all moral subjects alike, regardless of species. That simply won't be enough in conflict situations to help members of endangered species, whether sentient or not.

There is this additional problem for Peter Singer's version of sentientism. It turns on an old argument recently reintroduced by Singer. In Henry Salt's day at the turn of the last century, it was known as "the law of the larder." In Singer's hands it has come to be known as "the replaceability argument."[7] The argument goes like this: it is morally acceptable for us to treat certain domesticated species of animals as food sources since otherwise, these species would not exist at all. For

example, the familiar chicken would not have existed unless we had had the interest we do in domesticating such a species and sustaining it in existence, ensuring that enough new members are produced to replace those which we kill off and eat.

Notice that "replace" is a key word here. Peter Singer puts the argument this way in utilitarian terms: our central moral task, our only moral task, is to maximize happiness, that is, pleasurable experience. Killing another human being, or a member of another sentient species, is normally wrong because such an act normally decreases, rather than increases, the amount of pleasure that would exist in the world. However, if killing one sentient being in fact enables us to replace it with another sentient being of the same kind in such a way that the overall amount of pleasure being enjoyed in the world has at least not been decreased, then that act of killing can be justified. In other words, sentient beings can be looked upon as containers or receptacles of pleasure or pain. If we destroy one receptacle in order to make room for a new one, without decreasing the overall total amount of pleasure in the world, then that destruction is morally justified.

It is then claimed that this is precisely what is true of our livestock rearing practices. Natural resources are

limited. They can support only so many members of each domesticated species. We are morally justified in killing a certain number of each species for food since we see to it that these individual sentient beings are continually being replaced by new individuals of the same species. Cattle, sheep, pigs, and chickens simply wouldn't exist at all unless they had been domesticated by us to be used as natural resources. So it is certainly better for these species to exist, even if destined to be used as natural resources by us, than not to exist at all.

Notice however that the replaceability argument has limits. It will not justify factory farming. Nor will it justify recreational hunting or fishing. It will not justify factory farming since animals suffer in such conditions. They do not lead pleasant lives normal to their species. It will not justify recreational hunting or fishing since normally the killing of an animal for sport does not directly lead to its replacement by another member of the same species also leading a pleasant life normal to that species. Such replacement would only occur if the species population were at the maximum level which could be sustained by the available food supply. Moreover, the species in question in recreational hunting and fishing are not dependent upon such human practices for their very existence. These species would otherwise exist even if

there were no hunting and fishing (provided of course that in addition they were safe from any other forms of lethal human interference).

The replaceability arguments presupposes that in the case of certain domesticated species we would not rear members of these species unless we could eat them. Moreover, it presupposes that while alive, members of such species lead pleasant lives normal to their species. Recreational hunting and fishing does not satisfy the first presupposition. Factory farming does not satisfy the second.

The replaceability argument is thus able to rule out some of the more egregiously cruel of human practices which animal advocates would like to see ruled out. It also leaves in place at least some of our traditional flesh-eating practices. Both of these features of the argument seem to be virtues. Is the replaceability argument fully acceptable then to those who champion the cause of animals? There is much room for doubt on this score.

First of all, the replaceability argument has this odd consequence when applied to the case of abortion. Most cases of abortion will be ruled out as morally unjustified. On the utilitarian view of those who advocate the replaceability argument, killing a foetus turns out to be at least prima facie wrong because it serves to reduce the total

amount of happiness in the world by eliminating a potentially pleasant life. According to replaceability, the only way such a killing could be morally justified is if a second foetus is produced as a direct result of killing the first foetus.

Now this is a quite restrictive condition. It does not include abortion for pregnancy due to rape, nor abortion for the sake of the mother's physical health, nor abortion to limit family size, unless the family in question is at the point of starvation. Nor will this condition cover the case of abortion of a foetus with significant disabilities, unless the disabilities are severe enough to guarantee a life of total misery.

The only case of abortion which the replaceability argument seems to justify is one in which a woman simply must have a child within the coming year if she is to have one in the near future at all (perhaps she faces caring for aging parents after that, or perhaps she must begin training for the next Olympic games), but finds herself pregnant with a severely disabled foetus. The woman could abort this foetus, and become pregnant again with a healthy foetus which would then come to term within the next year. The replaceability argument would justify this abortion since the killing of the disabled foetus would make possible the coming into existence of the healthy foetus.[8]

But can't the utilitarian justify many abortions simply by reason of the fact that the abortion would spare a woman much suffering? Yes, of course, the utilitarian can, and does, do that. But the crucial point here is that the utilitarian can't do that while holding onto the replaceability argument. On the ordinary utilitarian view, the wrong done in killing one sentient being can be offset or counterbalanced by the increased happiness or reduced suffering which comes to other sentient beings as a result of the killing. On the replaceability view, only replacement by a similar being will serve as a proper counterbalance.

Thus the replaceability argument presents a much stronger position than ordinary utilitarian arguments. This is easy to see in the case of factory farming or sport hunting. Ordinary utilitarian arguments might in fact be used to justify such practices. The factory farmer or the duck hunter might claim that the pleasure he derives from his livelihood or sport certainly outweighs the suffering of the animals in question. So the animal advocate will need something stronger than ordinary utilitarian considerations.

All of this should lead us to suspect what is in fact true: the replaceability argument is not really any part of utilitarianism at all.[9] One might put it this way: the

replaceability argument treats both receptacles and their contents as important, while utilitarianism treats only contents, not receptacles, as important. According to the replaceability argument, the destruction of one receptacle can only be made up for by the creation of a new receptacle of exactly the same kind. This is a way of saying that receptacles, that is, individual sentient beings, have intrinsic value or inherent worth. There is nothing in utilitarianism that acknowledges such value or worth. For the utilitarian, the only thing of value is "content," the amount of pleasure which an individual sentient being enjoys. What is important is that the contents of a receptacle is destroyed. There should be no special value in creating a new receptacle, let alone one of the exact same kind, as long as there are other receptacles around to receive the contents of the destroyed one.[10] In a way, this should have been the whole point of regarding individual sentient beings as mere receptacles in the first place. A mere receptacle is of no intrinsic value.

So replaceability is not really utilitarian in nature at all. What it is a way of introducing the notion of intrinsic value, while continuing to talk like a utilitarian. The utilitarian is, of course, free to do this, and thus free to maintain that the only way to make up for killing one animal is to replace it with another animal of

the exact same kind. However, the difficulty ahead for the utilitarian will be how to defend the replaceability argument, for on purely utilitarian grounds, replaceability is going to look like an arbitrary extra premise.[11] The utilitarian will be hard-pressed to defend this without clearly going beyond his minimal utilitarian baggage.

Again, as we have just seen, applying the replaceability argument to abortion yields results far too restrictive to be welcomed by liberals on abortion like Peter Singer. All of this spells trouble for the replaceability argument as used by utilitarians like Singer. This result should be all to the good for most animal advocates anyway, for the replaceability argument yields results simply too weak to satisfy such advocates. This should come as no surprise, for recall that the original "law of the larder" argument was introduced to defend most of our traditional meat-eating practices, not to criticize them. Animal advocates, vegans especially, are interested in drawing our traditional meat-eating practices into question, not in ways of letting some of those practices off the hook. The replaceability argument should thus hold out little attraction for such advocates.

Now I am keenly aware that one should never underestimate the resiliency of a philosophical theory. One might even put it this way: there seem to be no dead

horses in philosophy. Theories seem to keep bouncing back, seem to keep on rising from the dead, even under the weight of insurmountable difficulties, counterexamples, and refutations. So I am under no illusion that Kantians and utilitarians will be reduced to silence by the problems just mentioned. They will be busy fine-tuning their responses to problems about painless killing, predation, and species extinction.

However, for the moment I don't find sentientism plausible, and am not attracted by it. I am attracted, though, to a position put forth by Paul Taylor, which can be seen as a natural extension beyond sentientism, and it is this position which I need to attend to more closely. One might call this position the "inherent worth" view, or perhaps better, the "life-centered" or "biocentric view."[12] Put simply, this position extends the circle of care to all living things. One doesn't have to be smarter than a clam to have moral standing. One just has to be alive.

The crucial notion in this extension of moral status is that of a thing's "good" or "well-being."[13] It makes sense to speak of a creature's good or well-being just in case it also makes sense to speak of what is <u>good for</u> the creature, or to speak of <u>what does it good</u>. What is good for some creature or what does it good is what protects or promotes its good or well-being. So a creature with a

"good" is something that one can benefit or harm. Moreover, to speak of benefiting such a creature is to speak of doing it good, of acting for the sake of that creature itself. A creature with a good is a creature on whose behalf one can in fact act. Hence, the good or well-being of such a creature can be understood independently of the good of any other creature. On this account human artifacts, as well as inanimate things in general, could not be said to have a good of their own. Whatever care we take in protecting or preserving our own artifacts is taken for our own sake, not for any sake of the artifacts. We take care of our tools and works of art and so on because of the interests and purposes we have in making and using such things.

This notion of a creature with a good is important to the biocentric view because it is a notion which applies to all living creatures. It is easy enough to see that it applies to all sentient creatures. Such creatures have aims and goals, interests and desires. They take an interest in things. What happens to them matters to them. They each have a species-specific good which can be preserved and promoted.

However, in addition, all simpler forms of animal life and all forms of plant life can also be said to each have such a species-specific good. It is true that since such creatures are not sentient, they cannot be said to have

interests or desires. Yet it can be said of such non-sentient creatures that something is in their interest or interests, although the creatures themselves have or take or can take no interest in it. That something is in a creature's interests need not be a matter of whether that creature takes an interest in it. There are countless things which can be said to be in the interests of non-sentient creatures. These are the things which can be said to benefit such creatures and to help them flourish.

For the biocentric view, to see that every living creature is such that it has a good, is such that it can be benefited or harmed, is to see that every living creature has inherent worth; that is, every living creature is worthy of moral respect, concern, and consideration. In other words, by reason of having a good, every living thing is a moral subject. Hence, all moral agents will have a prima facie duty to protect and promote the good or well-being of each living creature, both as an end in itself and for the sake of the creature whose good it is. Moreover, since the good of each living creature, its well-being and vital interests, is worthy of moral protection, every living creature can be said to have a basic moral right to the protection and promotion of its good, well-being, and vital interests. Such a general moral right can be said to be the source of a series, perhaps open-ended, of more

specific moral rights. Such a series of more specific moral rights would include: the right not to be harmed or wronged; the right not to be interfered with; the right not to have one's trust broken; the right to reparation or restitution when one has been wronged.[14]

This then is the biocentric, or inherent worth, view. Its appeal should be obvious. In a simple direct way it extends the circle of care to all living creatures. Every living thing is within the circle of care simply by reason of having a good, and hence, having inherent worth. Moreover, since inherent worth does not admit of degrees, every living creature counts for as much as every other, regardless of species membership and level of psychological complexity. Hence, the biocentric view is a deeply egalitarian position.

Egalitarianism is certainly an attractive feature for a moral theory to have. However, trouble looms on the horizon for just this feature of the biocentric view. If the well-being and good of each living creature is to count for just as much as the well-being and good of every other living creature, then how are we to handle all the many situations which naturally arise in which the interests and well-being of human beings are in direct conflict with the interests and well-being of various other living creatures, plants and animals? After all, we do have to eat at least

some other living creatures in order to stay alive ourselves, and we do compete with other creatures for at least some of our dwelling space on the earth.

As with any philosophical theory, the biocentric view is certainly resourceful enough to devise principles to handle competing claims in conflict situations. One way in which it might do this is to divide a creature's interests (those things which are in its interest, which contribute to its species-specific good) into those which are basic or vital, that is, those things absolutely necessary for its survival, those which are major but not vital, and those which are minor. Then one could say that in conflict situations basic interests should always dominate major and minor interests, and major interests in turn should always dominate minor interests. In the case of conflicts involving the same kinds of interests, further principles could be invoked, principles which might turn on relevant features like psychological complexity, or whether a member of an endangered species is involved in the conflict.

The trouble here lies not in the biocentric view's ability to devise priority principles for conflict situations. It lies rather in precisely which situations become conflict situations on the biocentric view, and in what one is forced to say once the conflict is resolved. For example, rice and soybeans are living things which each

have a species-specific good of their own, hence possess inherent worth, and thus have as much right to grow and flourish as I do. In eating them I violate their rights. However much I might be justified in eating them (by reason of some principle of necessity or self-defense, or by reason of some other priority principle invoked by the biocentric view to handle such conflicts in basic rights), I have still committed a prima facie wrong which must be recognized and acknowledged in some way. The "balance of justice" must be restored.

This issue becomes even more pressing in the case of conflicts between certain major human interests and the basic or vital interests of various plants and animals. An example might be the building of a hospital or library in an area where some plants and animals will unavoidably be destroyed. It seems plausible that the biocentric view should be able to allow for at least some cases like this. However, in allowing for such cases, the biocentric view must not make it seem as if human interests, whether basic or major, are simply trumping the basic interests of other living creatures whenever any really interesting conflict arises. That would simply be a relapse into speciesism, and the reinstatement of human moral superiority. This is why the biocentric view must not let the basic rights of other living creatures drop out of the picture even in

cases where they are overridden. A way not to let that happen is to maintain in each such case that a prima facie wrong has been committed which must be recognized and acknowledged in some way.

It would be natural to require here that adequate recognition and acknowledgement be expressed in terms of some sort of compensation or reparation. Paul Taylor puts it this way:

> Since we are aiming at a fair resolution of conflicting claims, whenever we cause harm to animals and plants in the pursuit of our human values, some recognition must be given to the fact that our treatment of them is prima facie wrong. This recognition is expressed in practical terms by our accepting the moral requirement to make restitution for the injustices we have committed. . . . As a way of restoring the balance of justice between ourselves and them, some form of compensation must be provided for wild animals and plants.[15]

Compensation or restitution could take the form of our setting aside large wilderness areas for the sole benefit of other species.

This then is how the biocentric view might propose handling conflict situations. It should strike one as deeply problematic. First of all, the biocentric view seems to be committed to the position that even in eating other creatures we are committing a prima facie wrong for which we must make restitution. The same would seem to be true even of our walking on grass. A whole host of unavoidable ordinary everyday activities would seemingly

implicate all of us in prima facie wrongdoing. This is most bizarre.

In addition, the notion of "the balance of justice" is quite obscure and in need of development. Is it just a poetic way of saying that rights have been violated for which restitution must be made? Or is the notion supposed to explain or justify the claim that rights have been violated for which restitution must be made? Clarification is needed here.

Finally, and most importantly, the biocentric view fails to maintain the species impartiality which it advocates. The biocentric view holds that basic human interests can override basic nonhuman interests, as in the case of our consuming plants. It also holds that sometimes major human interests can override basic nonhuman interests, as in the case of building the hospital or library. In both cases, members of other species will be killed. This is supposedly permissible as long as compensation is provided. But to whom can compensation be provided in these cases? Certainly not to those creatures which have been killed. It can only be to other surviving members of the species involved.

Here the parity with human ethics breaks down.[16] We are not justified in killing other human beings in order to pursue our own major or even vital interests (except per-

haps in the case of self-defense, and I stress perhaps since it is not clear to me that it is permissible to kill someone even in those circumstances), and it would be even more bizarre to claim that we could justify such killing as long as we provided compensation to other surviving human beings. Yet on the biocentric view this is supposedly what we can do in our relations with other species.

At this point, let's look more closely at Taylor's priority principles for handling competing moral claims between human beings and other species.[17] He intends these principles to be consistent both with the claim that every living individual possesses inherent worth, and with the claim of species-impartiality, that no species possesses greater inherent worth than any other.

To be fair to Taylor right from the outset, it should be noted that he doesn't look upon these principles as applying to conflict cases in any sort of mechanical, computational way. He doesn't think they will yield hard-and-fast answers to just any possible case. At the end of this section we will look at precisely how he thinks we should understand the role of these principles in deciding the difficult cases.

Taylor does think that his principles can help us in a straightforward way over a range of cases of conflicting claims. It should be worth our while to look at these

principles in some detail. I will list them, and then go through each in turn. Taylor's principles are as follows:

1. The principle of self-defense
2. The principle of proportionality
3. The principle of minimum wrong
4. The principle of distributive justice
5. The principle of restitutive justice.[18]

The Principle of Self-Defense. This principle applies to those cases in which the very life of one living creature is being threatened by another living creature. According to the principle of self-defense, the creature being threatened has the right to defend itself against the attacker, whether culpable or innocent, even to the point of taking the life of the attacker. However, the one being attacked will be justified in taking the life of the attacker only if he or she has taken every reasonable precaution to avoid exposure to the danger, and only if there really is no alternative to killing, such as escaping or disarming or wounding.

All of this sounds reasonable enough. However, for any view seriously committed to nonviolence, like the "equal power no-killing" view which I will outline in the next chapter, a principle of self-defense like Taylor's is deeply dissatisfying. It is deeply dissatisfying not primarily because it admits the abstract possibility of

some justified killing. Rather, it is dissatisfying because it fails to make clear just how remote and abstract that possibility is. In a world as prone to violence as ours, such principles of justified killing only serve to underwrite the status quo of violence. They make it seem as if violence should be seen as normal, as ordinary, as something manageable, as something we even have a place for morally. ("Here's the place for sex, and there's the place for violence.") They do this by making it seem as if the constraints under which they operate are quite straightforward and easily satisfied.

This is precisely what those who adhere to nonviolence would deny. They would deny that the constraints under which the principle of self-defense is meant to operate are readily satisfied. They would deny that if one is genuinely serious about avoiding violence, and so is genuinely serious about taking precautions and about finding alternatives to killing, there would still be plenty of real-life cases of justified killing in self-defense.

Take the case of rape. Adherents to nonviolence charge that in such a competitive individualistic society as ours, we are simply not good at envisaging communal forms of protection in order to avoid dangerous situations. Cooperative community neighborhood street patrols, apartment building alarm systems, protected parking garages, and

simply wider sidewalks--none of these measures, and others like them, have been pursued with anywhere near the vigor which would indicate that this society is serious about eliminating violence. Moreover, techniques of self-defense can be learned to ensure that attackers can be subdued short of killing them. This is to speak solely of defensive measures. It is to say nothing yet of getting at the real root causes of rape and the many other forms of violence against women in this society. Once we begin to let our moral imaginations work along these new lines, say proponents of nonviolence, the number of real-life cases to which the principle of self-defense will apply begins to rapidly shrink to zero.

Again, consider the cases of pest control. As Stephen Clark has put it, we have gotten ourselves into an arms race with the microbes.[19] Our programs to control and eliminate pests should more aptly be called programs to breed pests. For that is what they is fact do. The extensive use of modern pesticides and herbicides serves to disrupt natural predator/prey relationships, ensuring that various species now thrive unchecked by their natural predators. Pesticides and herbicides also serve to ensure that evermore virulent strains of various insects and microbes develop, no longer vulnerable to our poisons. Now this is a race that we simply cannot win. It's as if in

our great romance with violence, we think that we simply can keep punching nature with impunity, without nature one day delivering what will be a knock-out blow. (Could AIDS be the beginning of such a blow?) We seem to be incapable of seriously considering anything other than killing.

Yet, there are in fact nonviolent ways of living with the insects and the microbes, ways which would be ever so much more effective in helping us reach our real goals of growing good food and leading healthy lives. There are what have come to be called methods of "Integrated Pest Management" which farmers and gardeners can use to protect their crops and plants, making excellent use of natural predator/prey relationships to keep potential pest populations in ecological balance. Moreover, as we shall see in the chapter on animal research, our best protection against disease is prevention not cure, good diet and hygiene, a clean environment, and an adequate standard of living for all, not vaccines and drugs, most of which are either useless or positively harmful in their side-effects.

The point is that if we weren't such a violence-ridden culture, if we were genuinely serious about avoiding unnecessary killing, we would take the steps necessary to eliminate the need for anything like killing in self-defense. The fact that the principle of self-defense appears first on Taylor's list of priority principles is a

sure sign of just how deeply the image of violent conflict resolution has penetrated Taylor's moral imagination.

The Principle of Proportionality. We have already briefly touched on this principle. The basic idea is to devise a principle of conflict resolution which is species-impartial. One natural way to do this is to parse the interests which individual living creatures might have into those which are vital or basic, those which are major but not vital, and those which are merely minor. Our principles of species-impartial conflict resolution would say that in any situation of competing claims, regardless of the species involved, vital or basic interests should always dominate major interests, which in turn should always dominate minor interests. This is in essence Taylor's principle of proportionality.

However, in applying this principle Taylor makes, what seems to me, a fatal concession, and it is that concession which should not pass without critical comment. Taylor wants to say that in certain cases where major human interests are in competition with the vital interests of members of other species, the human interests should nevertheless win out, although a straightforward application of the principle of proportionality would rule this out. Taylor opens the way to saying this by making a distinction between those nonbasic human interests which

are "intrinsically incompatible" with the attitude of respect for nature, and those nonbasic interests which are not. Examples of intrinsically incompatible interests would be those expressed in such practices as slaughtering elephants in order to supply the wealthy tourist trade with ivory-carved items, or killing rhinoceros so their horns can be used for dagger handles to be purchased by wealthy Muslim businessmen in North Yemen. Examples of nonbasic interests which are not intrinsically incompatible would be those expressed in such practices as building libraries, hospitals, or highways in areas where natural ecosystems will be disturbed. Practices expressing intrinsically incompatible interests will of course be ruled out by the principle of proportionality. However, Taylor introduces another principle, the principle of minimum wrong, to handle the second sort of case.

The Principle of Minimum Wrong. This principle permits certain nonbasic human interests to win out over the vital or basic interests of other species just as long as those nonbasic human interests are not intrinsically incompatible with the fundamental moral attitude of respect for nature, there is no viable alternative way of pursuing those human interests without thwarting the vital interests of members of other species, and just as long as the nonbasic human interests are pursued in such a way as

to minimize the number of violations of rights and duties committed which involve other species. How are we to tell which nonbasic human interests are intrinsically incompatible with the attitude of respect for nature, and which are not? Taylor's answer is rather Aristotelian in flavor. The intrinsically incompatible interests are those which would be judged to be so by someone who firmly has the fundamental moral attitude of respect for nature, and who also possesses certain other complementary virtues (being fully rational, enlightened, and informed). The notion of moral vision also has a role to play in guiding our moral judgments, and we will return to this theme in a moment. First, a brief description of Taylor's other two principles.

The Principle of Distributive Justice. This principle applies to cases where like interests clash, vital with vital, major with major, or minor with minor. The basic spirit behind this principle is to transform potential life-and-death struggles into "live and let live" relationships. The principle requires that in cases where like interests clash, all species are to be treated impartially, that is, every individual, regardless of species membership, is to receive a fair share of the disputed resources in question, and a fair share will mean an equal share. Taylor suggests some practical ways in

which such sharing can be achieved. These include setting aside certain wilderness areas so that other species might enjoy their fair shares of the resources unmolested, practicing conservation, taking only what we need so others may have enough, learning to live in mixed communities where species enjoy their equal shares side by side, and taking turns, devising ways in which access to resources can be rotated, giving each species equal time so to speak, for instance, stipulating that various coastal or beach areas should be open to human recreational use only every so many years.

The Principle of Restitutive Justice. Taylor's final principle gives recognition to the fact that violations of rights and duties require reparation or restitution in various forms to correct the wrongs committed. Taylor contends that reparation or compensation can best be rendered by setting aside or restoring large wilderness areas for the sake of the species which have been wronged. This ideal of reparation or compensation is certainly praiseworthy. However, as already noted, Taylor is unable to secure a certain parallelism which he would like to maintain between human ethics and environmental ethics. In human ethics, one cannot justify killing someone by paying compensation to the person's relatives. Yet in environmental ethics, on Taylor's account of restitutive justice,

one can do just that. One can justify killing some creatures by paying reparation to the species or ecosystem to which they belong. I simply note in passing that this is a problem for Taylor. I won't even try to assess just how serious a problem it is, for I would like to move on to what I think is a more important difficulty with Taylor's theory.

The difficulty is with the exceptions permitted to the principle of proportionality. In order to achieve species-impartiality, basic interests should always dominate non-basic interests, regardless of the species involved. However, Taylor has introduced both the principle of minimum wrong and the principle of restitutive justice precisely in order to justify cases in which certain nonbasic human interests win out over the basic interests of members of other species. The worry is this: has Taylor taken away with one hand what he has just given with the other? In other words, has Taylor left a fatal loophole in what otherwise promises to be a radical critique of our current practices involving the natural world?

Recall that Taylor has laid out a theory for environmental ethics which is heavily Kantian in spirit, that is, it lays great stress on individual rights and duties, and on basic principles. This theory is meant to answer the foundational questions which philosophers have

traditionally asked about our moral lives. However, the theory is also intended to provide practical guidance. It is meant to do this through the list of rights and duties, and the basic principles. Yet as Taylor presents his priority principles for resolving conflict situations, we find him backing away from the traditional ambition of the Kantian moral philosopher to present principles which are guaranteed to yield answers in all cases. Instead, we find Taylor admitting that his principles, especially the principle of proportionality and the principle of minimum wrong, require in order to be applied correctly that one already has the primary moral virtue of respect for nature. At the very least, one needs that basic attitude of respect for nature in order to distinguish between those nonbasic human interests which are intrinsically incompatible with that attitude of respect, and those which are not.

Taylor acknowledges that even something further is needed, especially in the hard cases, in order to apply his principles. It is what he calls an "ethical ideal," the vision of "an ideal harmony between nature and human civilization." "It is in the light of this ethical ideal that all the hard cases must finally be resolved."[20] Solutions to competing moral claims must fit coherently into this overall moral vision.

I certainly do not quibble with Taylor's

acknowledgment that in the end we need both virtue and vision. I heartily applaud that acknowledgment. What I am concerned about is that he makes so little of them. They are admitted almost as an afterthought, under the breath, as it were.

That he makes so little of our need for virtue and vision becomes clear when we ask again whether Taylor has made a fatal concession in clearing the way for certain nonbasic human interests to win out over the vital interests of other species. It's very difficult to tell whether Taylor has undercut himself here, and it's difficult precisely because he fails to spell out in detail what his vision of an ideal harmony comes to, and because he fails to work out what having the virtue of respect for nature would mean for what he elsewhere calls "the bioculture," those institutions and practices, such as agriculture and medical research, in which other species are totally within human power and exploited for human purposes, albeit supposedly justifiable purposes.

Taylor does argue for a vegetarian diet, and against sport hunting and recreational fishing. However, he says nothing about animals in medical research, and he includes among his examples of nonbasic human interests which can win out over the vital interests of others practices like "replacing a wilderness forest with a timber plantation."[21]

Seeing what Taylor both does and does not say, one cannot help wondering whether the impact of his theory upon the bioculture will be a mixed bag indeed. Without a detailed spelling out of the virtue of respect for nature and of the entire moral vision which should animate our moral judgments, Taylor seems unable to block the distinct possibility that his theory can be used in the most reactionary ways. He really gives us nothing to prevent individuals and institutions from simply digging in their heels and declaring that their particular vested nonbasic interests are so important that, even for those who have the attitude of respect for nature, fulfilling those interests "is deemed to be worth the cost of harming wildlife."[22]

In the chapters which follow, I try to do something other than what Taylor has done. I spell out a moral vision in some detail, and do this without the benefit of a background moral theory. Then I display that vision at work in presenting the case for a vegan diet, and the case against animal-based research. In this way, I present a radical moral position which displays none of the ambiguity which Taylor's theory does.

So the biocentric view has its problems. Now what we do next will make all the difference. We have several choices. We could simply bite the bullet; that is, we could simply accept the biocentric view <u>as is</u>, bizarre

consequences and all, and go on to try to convince ourselves that those consequences are not so bizarre after all, and that we can indeed live with them. This seems like a move of desperation.

On the other hand, we could try to patch up the biocentric view. This might mean construing some of the rights which living creatures have as <u>defeasible</u> rights, rights which extend just so far, and do not hold come what may. Perhaps the right of certain creatures not to be eaten could be seen as a defeasible right. We might consider extending the notions of having a good and having inherent worth to species themselves and to ecosystems as a whole if this would prove to make it easier for the biocentric view to handle such problems as species extinction.

This move has in fact been made under the rubric of "holism."[23] Instead of starting from individual human beings as the center of moral value, and extending the moral circle of care outward to individual members of other species, as both sentientism and biocentrism do, holistic environmental theories begin with either species or ecosystems or even the planet itself as the primary locus of moral value. These holistic theories are often referred to collectively as "the land ethic."[24] This is Aldo Leopold's famous phrase, and such theories take inspiration from Leopold's own summary of the land ethic: "A thing is

right when it tends to preserve the integrity, stability, and beauty of the biotic community; it is wrong when it tends otherwise."[25]

Early versions of these theories stayed quite close to Leopold's maxim, and were thus quite strict in their holism, allotting moral value to individuals only derivatively, if at all. Such strict holism quickly ran into this problem: it can be plausibly argued that the planet would be much better off with a lot fewer people around. Strict holism would seem to underwrite some Draconian efforts at population reduction.[26] This problem led Tom Regan to label strict holism "environmental fascism."[27]

Subsequent versions of holism have taken a more mixed approach, starting from both ends, so to speak, recognizing moral value in both groups and individuals.[28] The problem for these more relaxed holisms is that they have yet to face the challenge which Paul Taylor takes on--namely, devising priority principles for handling competing moral claims, only now these competing claims will include not only conflicts between individuals, but those between groups and groups, and groups and individuals. So holistic theories leave us with much work to be done.

However, there is yet another possibility. We could stop and consider whether what we are doing really makes sense. We could ask ourselves whether we ought to be

searching for a theory at all. Wittgenstein makes the following remarks about our situation at this point:

> . . . one who has a just censure of a picture to make will often at first offer the censure where it does not belong, and an investigation is needed in order to find the right point of attack for the critic.[29]
>
> The first step is the one that altogether escapes notice . . . the decisive movement in the conjuring trick has been made, and it was the very one that we thought quite innocent.[30]

So what was our first step? What got us going which we may have thought quite innocent and unremarkable? What altogether escapes our notice?

Well, our very first step on our way into the bio-centric view was the claim that the moral world is composed of moral agents and moral subjects. This looks pretty innocent. But is it? What particular way of looking at our moral lives does such a claim commit us to right off, perhaps even without our noticing?

The first thing to notice is how incredibly abstract such a claim is. We don't begin with ordinary human beings living among ordinary human beings in a natural world which includes all kinds of animals and plants. We begin instead with "moral agents" and "moral subjects." These in turn are characterized by very general properties like "being rational," "being free," "being able to suffer," "having needs and interests," "having a good or well-being," and "possessing inherent worth." These quite general proper-

ties are said to ground general moral properties like "having moral standing or moral status," "having rights," and "having duties." What we have is an abstract way of talking which could just as well serve to fit the moral lives of Martians as the moral lives of human beings. This is no accident. It is part of the point of going after a moral theory to fashion a way of talking which could describe morally relevant practices and situations wherever and whenever they occur or obtain. Moreover, aiming for such abstractness and generality is not simply a matter of theoretical concern for greater explanatory power. It is also the result of holding to a certain picture of what our moral reasoning has to be.

That picture is roughly this: moral reasoning is a species of practical reasoning, and practical reasoning is something we understand pretty well; formal techniques in game theory and decision theory have seen to that (only a few problem areas, like the prisoner's dilemma and Newcombe's problem, seem to stand in the way of complete formalization). In this picture, practical reasoning, and hence moral reasoning, is a matter of computing over a few fairly well understood variables, notions like "interests," "utility," "costs," and "benefits," notions which themselves are quite general and abstract.

There is more to the picture. It isn't simply a

matter of game theory and decision theory shaping our notions of practical reasoning. The picture of practical reasoning is simply one part of a much wider picture of how thought and reality, language and world, are connected to one another. This picture also includes an account of how facts and values are related to one another.

Briefly put, the picture says that thought and language work by being correlated with objects and facts in the world. These objects and facts are independent of language and thought. Language and thought get it right, that is, express the truth, whenever the way they say things are is in fact the way things are in the world independent of language and thought. Moreover, the language which does this best is that of natural science. Natural science, especially physics, gets at the way things are in the world in such a transparent way that the way things are according to physics explains how the true things expressed in nonscientific languages are in fact true. Again, since physics seems to present us with a world devoid of all value, we are left with the problem of putting human values back into that world.

Efforts have been made to undermine this picture which do tell against it. We have already gone through them in Chapter Two. Here I will explore the costs for our moral lives of clinging to such a picture. Notice that in this

picture everything ultimately is treated in just the way physics treats natural processes, that is, as law-governed causal processes. Even language and mind come to be seen this way. Language has to be some sort of calculus which is operated by the mind as a kind of mechanism. Scientific reasoning itself, as the paramount thing which the mind does, has to be a species of formal computational process. Hence, practical reasoning, and moral reasoning too, in so far as they are rational, will turn out to be such processes also. But if moral reasoning is a formal process, then there should be a formal account of it. Thus we come to search for a moral theory.

One of the immediate consequences of such a formal approach to our moral lives is that we come to split ourselves apart in various insidious ways. We treat our moral reflection and reasoning as if it were quite distinct from imagination, emotion, mood, attitude, and desire. Head is split from heart, and mind from passion. Heart or passion is seen as merely what provides data for the mind's computations, or what provides the energy to carry out the mind's directives. On this view the mind is cut off, isolated, only accidentally connected to heart or passion. No wonder then that the terms it is prepared to think in are highly abstract ones like "moral agent," "moral subject," "interests," and "rights." One could expect little

else from a mind that general and featureless. No wonder again that such a mind seeks to provide reasons which will be reasons for anyone. Such a mind could be anyone, human being, Martian, or robot.

Notice also that such a view of ourselves at moral reflection is shared by both Kantians and utilitarians. Both see moral reasoning as basically a formal process amenable to theoretical description. They simply differ over that description. They both agree that moral reasoning is a process governed by principles grounded in practical rationality. They just differ over the number and kind of principles involved, and over whether those principles invoke the notion of "rights" and "duties," or simply that of "interests."

This view of moral reasoning as basically like theoretical reasoning in science leaves us with a very thin and anemic conception of the moral imagination and of moral change. As Cora Diamond argues, such a view leaves us unable to understand or appreciate the role that imaginative literature can play in our moral lives.[31] Writers such as Wordsworth, Dickens, Jane Austen, and Henry James present characters, situations, and stories in such ways as to enlarge our moral imaginations. Such works of art teach us new ways of being attentive, of seeing and feeling, and of responding, all of which can contribute to, and can in

fact constitute, genuine moral change and growth. Dickens, for example, gets us to see the world through the eyes of children, and he does this in such a way as to convince us of the genuineness of their moral appeal, an appeal which had largely gone unheeded until Dickens' works.

That works of art are important to our moral lives in these ways should serve to remind us that we are not mere computing devices with, unfortunately, a few nonrational items like emotions and desires tacked on. We live our lives as human beings, not as a cluster of states and capacities which can be easily decomposed into the rational and nonrational. Moreover, the morally demanding situations we may find ourselves in are often not usefully decomposable into the morally relevant recurring features and the morally irrelevant idiosyncratic features. Works of art can help us, in ways that theories can't, to learn to respond in ever richer ways to unique and complex situations.

Finally, the search for a moral theory has an especially damaging effect in nature ethics. Moral theories typically try to reduce all moral reasons to one reason. The moral life would always be a matter of "doing one's duty," or "maximizing utility," or "respecting life." We have seen what bizarre results this push toward abstract simplicity has produced in the case of the biocentric view.

Both the holistic and nonholistic theories suffer from this. All of these theories want to say that whatever counts morally must do so for one and the same reason. Everything within the circle of care must share some one common morally significant feature. Theories simply differ over what that feature is. Some say sentience. Some say intrinsic value. Others say "deserving appreciation."[32] But why, short of the demands of ontology, should we find this plausible? Why should we think that we are only capable of responding to one sort of moral value? Why can't our moral world be filled with many different moral values, all of them calling for our allegiance at various times and in various ways?[33]

Yet, what is even worse, this push toward simplicity disfigures the power and resourcefulness of our ordinary ways of moral reasoning and reflection. Suppose, for example, we are concerned to protect the earth's few remaining rainforests. There are all sorts of moral reasons we can bring to bear on this issue. Various indigenous peoples need the rainforests as homes. Uncountable species of plants and animals also need the rainforests as natural habitat. We need the rainforests to help curb the greenhouse effect. (Tropical rainforests serve as carbon dioxide pumps, taking out of the atmosphere carbon dioxide, high levels of which trap reflected sun-

light, high amounts of which help increase the earth's surface temperature.) Germplasm from rainforest plants and animals could help us create new foods, drugs, medicines, and other beneficial products. Moreover, rainforests are regions of great awe, wonder, and beauty. To destroy them would be cruel, indecent, callous, inhumane. It would be more unrelenting human arrogance. It would be vandalism.

Someone in the grip of the impulse to theory might respond to this summary case for the rainforests by demanding that we distinguish between the various kinds of reasons given, and also weigh their relative importance. But why should we do this, even if we can? What purpose would that serve? Do not all the reasons given contribute to the case for the rainforests? Moreover, in this case, are any of the reasons given any deeper or more important than any others? Aren't they all of immense importance? What yardstick of importance does the moral theorist have in mind?

I suspect that the moral theorist's real demand is for reasons which ground or justify the various actual reasons given. It is somehow not enough simply to say that various rainforest plants and animals need their rainforest homes. We must go on to defend this claim by fixing on very general features like "sentience" or "having a good" or

"having inherent worth." But the need for a moral theory should by now be suspect. So why, independent of that need, should we think that our ordinary moral reasons stand in need of further justification? What needs support, and what justifies what are matters dependent on context and purpose. Moral theories ignore this. They want absolute reasons, reasons which always work regardless of context. But that is a bogus ideal. The kinds of reasons given in the case for the rainforests are as rich and sturdy in this context as moral reasons can possibly be. What sense would it make to seek absolute support here?

The moral theorist might yet reply that ordinary moral reasons which work in place should be seen as data for theory construction, data which any plausible theory must honor. However, once the theory is worked out, it can go on to handle the hard new cases where our ordinary moral reasons give out. This way of putting the need for theory can still seem quite tempting, for we are seemingly faced with an onslaught of hard new cases, especially in nature ethics.

Yet this temptation should be sharply resisted. It is still part of that original picture which sees us as mechanisms. The dream is to replace ourselves with a mechanism. If we only had a theory, we think, then we

would be safe from uncertainty, struggle, and failure. That is pure fantasy. We must make do with our ordinary ways of going on. Moreover, pursuing the fantasy hides from us the fact that we can and do make do with our ordinary ways of going on.

I want to emphasize again that resisting the impulse to theory need not prevent us from making use of various things which moral theorists say, once those things are separated from the project of ontology. Something like Paul Taylor's priority principles can be of help to us in puzzling new conflict cases. They can be of help as long as they are seen as handy rules of thumb, summaries of parts of our moral experience. Seen in this way, such principles can help highlight important features of puzzling new cases without automatically deciding those cases for us.

There is yet another possibility. Someone might suggest a distinctly different motivation for the abstractness and generality typical of moral theory. Such abstractness and generality might be thought important for the legislative process of framing laws. Moral theory on this view would be a helpful tool for legislators and lawyers. Making laws in a pluralistic society would require finding areas of common agreement across vast differences. Formulating such areas of consensus would

probably require a fair amount of abstractness and generality.

Whether moral theories can be helpful in this way strikes me as an empirical question. I have no stake in the answer to it. Moral theories seen in this light would be philosophically modest. They would not display the traditional ambitions and pretensions. However, most moral philosophers working in nature ethics are not modest. They do not see moral theories this way. They see them as providing foundations for our considered moral judgments. The criticisms presented do apply to them.

I would also register this qualm. To privilege the viewpoint of legislators and lawyers can be quite elitist. To privilege abstract thinking can be elitist also. To acquire such positions or such skills requires class privilege. Searching for consensus from atop the class structure often only serves to mask off important differences which are crucial to the self-identity of various oppressed groups. We cannot have too vivid a sense of what life is like for a poor Aymaran woman living in Achacachi, Bolivia who walks barefoot to market every day behind her husband who wears shoes. This is a way of saying that it's not all that clear to me that what is needed for better laws is more abstractness and generality, especially if those laws arise through a process of grassroots decision-making.

One of the virtues I would claim for the kind of moral vision I present in the next chapter is that it is not elitist. Thinking in terms of inspiring pictures and rich vivid examples is something open to everyone. Important details and differences need not get lost in working out such a moral vision. As we will see, the moral vision presented is one which in fact guides various Third World liberation movements. I would like to see my support of that vision as in some small measure an act of solidarity with the Third World, especially Third World women.

We have now looked at the range of moral theories being put forth in nature ethics, and we have looked in part at the general case for a moral theory. Neither should have the grip on us which they once did. We should now be better able to defy compulsion, resist the impulse to theory, and to get on with the real work of spelling out a satisfying vision of how environmentally sensitive human beings should live.

Notes

[1]J. Baird Callicott, "The Search for an Environmental Ethic," in Matters of Life and Death, ed. by Tom Regan, 2d ed. (New York: Random House, 1985), pp. 392-395.

[2]Peter Singer, Animal Liberation: A New Ethics for Our Treatment of Animals (New York: The New York Review of Books, 1975), p. 8.

[3]Tom Regan, The Case for Animal Rights (Berkeley: University of California Press, 1983).

[4]Callicott, p. 396.

[5]Callicott, p. 399.

[6]Callicott, p. 400.

[7]In this section on the replaceability argument, I follow quite closely Rosalind Hursthouse's excellent discussion in her Beginning Lives (Oxford: Basil Blackwell, 1987), pp. 148-153.

[8]Hursthouse, p. 151.

[9]Hursthouse, p. 152.

[10]Hursthouse, p. 152.

[11]Hursthouse, p. 153.

[12]The biocentric view is presented in detail in Paul W. Taylor, Respect For Nature: A Theory of Environmental Ethics (Princeton: Princeton University Press, 1986).

[13]Taylor, pp.60-71.

[14]Taylor, p. 253.

[15]Taylor, pp. 286-287.

[16]For this point, see Bryan G. Norton, "Paul W. Taylor: Respect for Nature," Environmental Ethics, Vol. 9, No. 3 (Fall 1987), p. 266.

[17]Taylor, Chapter 6, pp. 256-313.

[18]Taylor, p. 263.

[19]Stephen R.L. Clark, The Moral Status of Animals (Oxford: Oxford University Press, 1977), p. 172.

[20]Taylor, p. 264.

[21]Taylor, p. 280.

[22]Taylor, p. 281.

[23]Callicott, pp. 403-410.

[24]Callicott, pp. 403-410.

[25]Callicott, p. 409.

[26]Callicott, p. 410.

[27]Callicott, p. 404.

[28]Callicott, pp. 410-420; also see Holmes Rolston III, Environmental Ethics: Duties to and Values in the Natural World (Philadelphia: Temple University Press, 1988).

[29]Ludwig Wittgenstein, On Certainty (Oxford: Basil Blackwell, 1969), No. 37.

[30]Ludwig Wittgenstein, Philosophical Investigations (Oxford: Basil Blackwell, 1958), No. 308.

[31]Cora Diamond, "Anything but Argument," Philosophical Investigations, 5 (January, 1982), pp. 23-41.

[32]Rolston, p. 199.

[33]For criticism along these lines from a pragmatist point of view, see Anthony Weston, "Beyond Intrinsic Value: Pragmatism in Environmental Ethics," Environmental Ethics, Vol. 7, No. 4 (Winter 1985), pp. 321-339, and "Forms of Gaian Ethics," Environmental Ethics, Vol. 9, No. 3 (Fall 1987, pp. 217-230.

CHAPTER V

MORAL VISION

I will now suggest a way of doing nature ethics without theory. Moral philosophers try to do nature ethics from within the abstract world of ontology. I have argued that we should reject that world. In place of ontology, I propose that we begin with the real world, with the actual moral and political struggles which we face, in all their nuance and detail. What we find when we begin there, I would suggest, is not the importance of theory, but the importance of moral vision. Many, if not most, of those involved in the various utopian liberation movements around the world are inspired not by abstract theory, but by an image or dream of what an ideal human life together could be. Among the progressive movements I have in mind are the women's movement, the peace movement, the civil rights movement, various Third World liberation movements, and the environmental movement. Emblematic of all of these for me is the Gandhian-inspired movement in India and Sri Lanka known as Sarvodaya Shramadana, "The Welfare of All." Sarvodaya combines features of all of these utopian movements. It is a movement to secure the rights of women,

make peace between various religious and tribal groups, establish networks of self-sufficient villages, and live in harmony with the natural world. A closely related movement is the Chipko ("Hug the Trees") Movement in northern India and Nepal.

What I would suggest is that the kind of moral vision which inspires progressive movements like Sarvodaya can be of great help to us in approaching moral issues concerning the natural world. What follows is a sketch of that moral vision. I hope this will help show its importance.

I would like to call this moral vision "the paradise vision." It is after all a picture of paradise, a picture of the ideal moral life. The paradise vision has certain central features. It expresses certain core values. The paradise vision is at once feminist, contemplative, anarchist, pacifist, and what I will call "radical-green" and "deep-green." By "radical-green" I mean that the paradise vision is a picture of human communities with economies which are socially just and ecologically balanced. By "deep-green"[1] I mean that the paradise vision is an image of human beings living in friendship and harmony with the natural world, not in domination over it.

Some of these core values may strike one as strange at first. I hope what follows will help remove some of that strangeness. The paradise vision and its core values may

appear strange because of the point of view which it expresses. The paradise vision expresses the point of view of the "underdog." It is the dream of a better world from the viewpoint of those who are exploited, oppressed, enslaved, marginalized, or forgotten. All of the utopian liberation movements mentioned are in one way or another movements of just such people. However, it is not simply the outcast or underdog who has the paradise vision. It is a particular kind of outcast or underdog. It is the outcast or underdog who is "beyond revenge."

Let me explain that by beginning with the feminist features of the paradise vision. Feminism certainly means different things to different people. However, there is a growing consensus among feminist writers that there is a central insight at the heart of feminism.[2] This is the insight that what feminism is about is not just the critique of unequal power relations between men and women, but the critique of unequal power relations wherever they occur. Moreover, feminism is not just a generalized or holistic critique of such unequal power relations, but a particular kind of critique. Feminism does not merely object to master/slave relations, whether between men and women or elsewhere. Feminism wants to eliminate such existing master/slave relations in such a way that the roles of master and slave are completely vacated, and not

simply reversed. The real moral goal is not for individual slaves to join the ranks of the masters, or for slaves as a group to become the new masters. The goal is to overcome unequal power relations wherever we find them, and to establish shared equal power in their place.

The slave does not aspire to be the master. This is the outcast or underdog who is "beyond revenge." The oppressed who dream the paradise vision seek genuine reconciliation with their oppressors, not to become new oppressors in turn. This attitude lies behind all of the central core values of the paradise vision. Each of the values arises from a particular struggle against a long-standing form of domination and oppression, whether men over women (sexism), white over black (racism), rich over poor (classism), or human beings over the natural world (speciesism or naturism). The paradise vision is the vision of a world in which oppression has been eliminated, social power is shared equally, and the tables haven't simply been "turned."

Should such a moral vision have a special purchase on our attention? I think it should. Here are some suggestions as to why I think that. Suppose I'm standing on your neck. It is conceivable that I might be oblivious to this fact. It is highly unlikely that <u>you</u> will be. This is a way of saying that the oppressed are usually better

"moral barometers" than the oppressors. Those who are suffering are normally "authorities" on that suffering in ways that those inflicting the suffering are not. The oppressed are more likely to spot forms of oppression than oppressors are. So what the oppressed have to say should have a special claim on our moral attention.

Moreover, the paradise vision is not just a vision of the oppressed. It is a generous vision. It is a vision of those beyond revenge. It is a vision that seeks reconciliation, not retaliation. Being generous in this way certainly strikes me as an important moral value. I claim that the paradise vision, both because it is the voice of the oppressed, and because it is generous, has a certain prima facie claim on our moral attention. To test that claim, each of us will have to submit the paradise vision to our deepest sense of what makes good moral sense.

To aid that process, let me sketch the paradise vision in more detail. The various core values of the vision can all be seen as expressions of the central feminist critique of unequal power relations. The feminist core values themselves are the working out of that critique in the areas of sexuality and child rearing. The paradise vision is feminist in that it is a picture of human beings relating to one another as equals in all areas of their lives, including the most personal and intimate ones.

This "equal power" view of the paradise vision then becomes anarchist and pacifist when one turns to issues of political power and authority. This may sound shocking. I will try to explain. The anarchist tradition is certainly a complex one. What is relevant to the paradise vision is that strand of the anarchist tradition, the communitarian one, which advocates those forms of political power-sharing and decision-making which are equal, direct, and grass-roots.[3] In other words, anarchism, in the communitarian sense, is pure democracy. Anarchism in this sense is what Americans used to call "populism." Anarchism or populism is a critique of unequal political power relations. It is a vision of human beings all having an equal, effective voice in deciding the political issues which affect their lives.

The paradise vision is also pacifist. Nonviolence is a core value. This should not be surprising if we recall that the paradise vision is the moral vision of those who seek an end to their oppression through genuine healing and reconciliation. For such people, and Gandhi is the outstanding example here, violence is not the way to peace and healing. Violence only begets more violence. Those who take up arms to end their oppression only become oppressors in turn. Nonviolence is the only strategy open to the poor and destitute. They can't afford the firepower

anyway. Moreover, only nonviolence holds open the possibility that genuine forgiveness and reconciliation can take place.

In addition, there is an intimate connection between nonviolence and anarchism as core values in the paradise vision. A deep commitment to nonviolence can naturally lead to a deep commitment to anarchistic political values, as it did in Gandhi's case. To say no to violence is to say no to the state, for the state establishes and maintains itself through violence. Two of the main practices for which the state claims sole right are capital punishment and warfare. To be nonviolent is certainly to be against capital punishment and warfare. Thus to be nonviolent is to be against the state as any sort of power center or protection racket based upon violence. To be against the state in this way is to be an anarchist.

The hope for deep healing and reconciliation is an expression of what one might call the "spirituality" at the heart of the paradise vision. There is a "contemplative" side to the vision. It does take the possibility of prayer seriously. This may again be surprising. However, recall that the paradise vision is the moral vision of Third World peoples. They are not children of the Enlightenment. The poor and oppressed are not heirs to any sort of "methodological atheism." I would venture to suggest, without

argument at this point, that such "innocence" might turn out to be a virtue. What I have in mind is this. The paradise vision expresses an attitude of what can be called "openness to mystery." To be open in this way is to see ourselves and other species as fellow creatures in a created world all of which is worthy of respect and appreciation. It is to see the world as creation, as an expression of the wisdom and compassion of that mystery which some call God.

Such "openness" might be merely an expression of superstition and magic. But it need not. At least that is the possibility for which I would like to leave room. In this matter of spirituality, Third World peoples may have something to teach the children of the Enlightenment. If openness to mystery proves genuine, then it will lend added support to the radical-green and deep-green features of the paradise vision. Both of these features are expressions of deep respect for the natural world.

The paradise vision is radical-green in that the equal power at the heart of the vision is extended to human economic practices. The vision is deep-green in that equal power is extended to all of our relations with the natural world. These two features of the paradise vision are intimately connected in that so many of our economic practices involve the natural world.

Consider the matter of diet. The matter of what we eat involves both our fellow human beings and our fellow creatures. For suppose I eat fast-food beef. That beef has most likely come from cattle raised on large Central or South American ranches. Such ranches are in the business of steadily clearing away what little remains of the tropical rainforests of Central and South America. Such relentless rainforest destruction is bringing about the extinction of countless species of plants and animals which depend upon the rainforests for their survival. Such rainforest destruction also threatens the survival of various archaic cultures indigenous to those tropical areas. Moreover, the growth of large cattle ranches in Central and South America has meant the displacement of many poor people from their small family farms in order to make room for more grazing land. This is not even to mention the disastrous effects of fast-food beef on those who consume it.

Thus, the matter of diet involves both radical-green and deep-green issues. This is most clear in the case of the vegan position. The vegan decides to refrain not only from animal foods, but from all animal products whatsoever. The vegan refrains from all animal food certainly for health reasons, but also for social, political, and economic reasons. To put it bluntly, the vegan requires much

less land and other scarce resources to sustain life than does the meat-eater. This means for the vegan that consuming less means there will be more for others. The vegan position is certainly radical-green in that it is an attack on capitalism at its very heart, at the very way food is produced and distributed in this world. The radical-green vegan vision is one of local community self-reliance on plant foods. This moral vision is one of completely freeing people, especially the poor of the Third World, from any dependence on the world's profit-makers, whether so-called free market or state capitalist. This freeing has to start right at the most basic level of food independence and security.

In addition, the vegan position is deep-green in that the vegan boycott of all animal products is the essential first step in freeing the natural world from being used as raw material for human purposes. The deep-green vegan vision is one of essential equality and basic friendship and harmony between human beings and all other species. Achieving such friendship and harmony means at the very least reducing to an absolute minimum the suffering which animals are made to endure at the hands of human beings. Stopping animal suffering would certainly include stopping the practice of eating them. Achieving friendship and harmony between the species would also involve stopping all

medical and military research on animals. Moreover, it would include ceasing to use animals for human recreational purposes. This would mean phasing out the practice of domesticating animals as pets, and no longer training them for the circus, horse racing, dog racing, cock fights, or bull fights. Achieving such friendship would also mean the end of all recreational hunting and fishing, and the phasing out of all zoos, animal parks, marinelands, and aquariums.

At the heart of the deep-green vegan moral vision is the notion of wilderness, "big wilderness," as Earth First! likes to say. In order to be nonviolent and gentle toward all species, in order to set nature free from its bondage to human power, we must be prepared to give back the earth to our fellow creatures. We must be prepared to set aside at least half the planet, land, sea, and air, as undisturbed natural habitat for all other species. Hence, the deep-green vegan vision is committed to restoring wilderness, genuine wilderness, to the face of the earth. Genuine wilderness, big wilderness, wilderness that doesn't simply amount to tokens too small in area to meet the needs of other species (as is the case with our national parks, both here and in Canada), or wilderness that doesn't turn out to be merely more playgrounds for the rich (how many of the poor in this country can afford to visit our national

parks?)--this is the deep-green goal.[4]

Moreover, being serious about big wilderness will mean being serious about deep-running changes in our political and economic lives. Radical-green and deep-green features of the paradise vision run tightly together here. The radical-green commitment to social justice and the deep-green commitment to big wilderness both point us in the direction of human beings living in small self-reliant communities in which political and economic power is equally shared. Such radical-green and deep-green communities will be bioregional, that is, they will be communities where human life is lived from a deep sense of <u>place</u>, from a deep sense of belonging to a quite particular and cherished part of the earth. To see oneself as part of a bioregion is to see oneself not only as a member of a certain human community, but also as a member of a wider "mixed" community (to use Arne Naess' term) of human beings living together with various species of plants and animals, ecosystems, and natural landscapes. Such bioregions are understood in terms of natural boundaries and ecosystemic relationships, not in terms of artificially imposed political demarcations.

In addition, radical-green and deep-green communities will have modest, ecologically sensitive, no-growth, steady-state economies focused entirely upon meeting the

vital needs of everyone equally. Hence, such green economics will be clearly anti-capitalist. They will be fiercely against the idea that our economic lives should turn on the generation of capital by the many for the sake of a few. For the radical-green and deep-green moral vision, only local community control over capital (productive surplus) can guarantee both social justice and eco-justice. Only such local democratic control can stop both the exploitation of the many by the few, and the massive cruelty, species destruction, resource depletion, and habitat pollution which big-growth capitalist economies inflict upon nature.

Moreover, green economies will be genuinely sustainable. They will stop stealing from our children and grandchildren. They will no longer rob from future generations the natural resources which are rightfully theirs, and they will no longer dump upon these same future generations the terrible problems of toxic and nuclear waste disposal.

This issue of sustainability is another reason why there is no place for any of our current meat-eating practices within a radical-green and deep-green moral vision. Livestock agriculture is an ecological disaster. As we will see in detail in the next chapter, raising animals for their meat, milk, or eggs is incredibly

wasteful of protein, fiber, and other vital nutrients. It is a terrible misuse of already scarce land resources. It is the prime cause of topsoil loss and water depletion around the world, and thus the principal cause of desertification, the process of turning huge tracts of the earth's surface into desert. Moreover, as we already mentioned, cattle raising is the culprit directly responsible for massive rainforest destruction, and hence, massive species extinction, around the world. Finally, such animal rearing practices confront us with the additional problems of disease containment and waste disposal for so many confined animals. Dumping livestock wastes into our rivers, streams, and lakes is the overwhelming cause of water pollution in this country. The pumping of factory farm animals with antibiotics and growth hormones and the spraying of the food these animals eat with dangerous pesticides and herbicides makes it frighteningly certain that we now live in "America the Poisoned."[5]

Finally, it should be clear that all of the features of the paradise vision naturally fit together and reinforce one another. This is so not only because the values expressed in the vision have a natural affinity for one another, but also because all the values expressed have the same target, the same common source of moral evil to which

they are opposed. This is also true in the case of the various utopian liberation movements around the world. Whether one starts with the vision, or with the progressive movements inspired by the vision, the story is the same: the enemy is always patriarchy, empire, and capital. Progressive moral struggle has always been struggle against what has happened to the world since roughly 5000 B.C.E. After that point, the large urban civilizations came on the scene. These social structures were built on massive social domination and oppression. Human life became an arena in which large-scale forms of slavery arise together, intertwine, and reinforce one another. The "civilized" world has always been a world of sexism, racism, classism, and speciesism or naturism, a world in which a few elite males with most of the wealth and firepower dominate the lives of vast numbers of people, and use animals and nature simply as sources of more wealth and firepower. The modern world in global crisis is the extreme edge of this long process of "civilization." Everything gets churned up in this process and turned into capital--men's and women's minds and bodies, plants and animals, the very minerals in the earth itself. Whatever stands in its way is destroyed--whether charismatic figures, resistance movements, primal cultures, "useless" plants and animals. Nature gets squeezed out. There is no room left for a natural world.

Everything becomes artificial, paved over, genetically engineered. Make no mistake about it. Civilization and its technology intends to "win." The only thing that stands in the way are those utopian liberation movements and the moral vision which animates them.

That is the vision I have tried to sketch, the paradise vision, the vision of the radical deep-green moral life. This is the vision of human life together in the natural world which is at once deeply feminist, contemplative, anarchist, nonviolent, radical-green, and deep-green. In what follows I won't try to present considerations for all of these features of the vision. However, I will present what the paradise vision says about diet and about animal-based research. I will do this not only because I consider these central moral issues, but also because I would like to present some detailed examples of moral reasoning in order to support my earlier claim that moral theories are "idle wheels" which do not help us in our actual moral reflections.

Notes

[1]I adopt this term from Richard Sylvan, A Critique of Deep Ecology, Discussions Papers in Environmental Philosophy, No. 12 (Canberra: Australian National University, 1985), pp. 45-60.

[2]For an introduction to recent feminist theory, see Hester Eisenstein, Contemporary Feminist Thought (Boston: G. K. Hall, 1983).

[3]On anarchism, see Richard Routley and Val Routley, "Social Theories, Self Management, and Environmental Problems," in Environmental Philosophy, ed. by Don Mannison, Michael McRobbie, and Richard Routley, Monograph Series No. 2 (Canberra: Australian National University, 1980), pp. 217-332.

[4]On the importance of wilderness, see Bill Devall and George Sessions, Deep Ecology: Living as if Nature Mattered (Layton, Ut.: Gibbs M. Smith, 1985).

[5]Lewis Regenstein, How to Survive in America the Poisoned (New York: Acropolis Books, 1982).

CHAPTER VI

THE MORAL DIET

1. I will now present two very detailed examples of my own moral reasoning.[1] The example in this chapter will involve the matter of diet. The example in the following chapter will center on the issue of using animals in medical research. I have decided to use cases of my own moral reasoning as examples for several reasons. For one thing, I certainly won't have to contrive or concoct examples. I already have them ready at hand, as alive and vivid as one could want them to be. For another thing, it's a central part of the big story which I'm attempting to sketch against the attempt to mechanize or computerize our moral lives, that we respect the intensely personal nature of our moral reflections. So in a sense I will present my own moral reflections simply because I can't do anything other than that. I can't do your moral thinking for you, even if I wanted to. This doesn't mean that we are all radically cut off from one another, without any benefit of backgrounds of agreement, in terms of shared moral communities and traditions. It just means that the most I can do in confronting these immensely serious

matters is to share my reasoning with you, as a way of making sense of myself to you, in the hope that if I get some things right, this might help each of you along your paths, and in the hope that if I get things wrong, some of you might help head me off from disaster. I hope this sense of modesty will prevent what follows from taking on a moralistic or self-righteous tone.

So here is how my thinking has gone on this matter of diet. To begin, the issue about diet certainly didn't start off as a moral one. At one point in my life I had begun to train seriously for running a marathon. As part of that effort, I read some things on how one should prepare. Some of that material contained advice on what to eat. Runners were advised not to eat much meat because meat takes much longer to digest, and stays in the intestinal tract much longer than plant foods. This situation contributes to sluggish performance in runners.

I took the advice to heart, tried it, and found that it indeed worked. I felt overall much lighter and more vigorous, and my running noticeably improved. To this point in my life I had never really seriously thought about food at all. I was thin, never had a problem about putting on unwanted pounds, and pretty much ate whatever struck my fancy, frequently snacking between meals on chocolate bars.

That way of going on now began to change. I began to take a lively interest in nutrition. I also found that I now wanted to learn to cook. I began to read in these areas, and to talk to friends. What I gradually learned led me away from a narrow concern simply with what food is best for running, or best for one's overall health, or fun to prepare, or easy on the pocketbook, to a much wider concern with the entire causal process involved in producing the food and getting it to me. I came to learn things not only about nutrition, but also about how animals are treated in modern factory farm conditions, and about the overall social costs of our livestock agricultural practices which have transformed this issue of proper diet into a moral one for me.

In what follows I will lay out what I think I now know about these three areas: factory farm conditions, nutrition, and the social or ecological costs of our modern First World eating habits.

Factory Farms

2. I will begin with modern factory farm conditions.[2] One need only open any of the farm trade journals like Farm Journal, Poultry World, or Hog Farm management in order to see that the traditional family farm is indeed a thing of the past. It began steadily losing ground after the Second

World War, and now has completely lost out to what can only be called "the factory farm."

What factory farms are like certainly came as a shock to me, since I grew up on a small family farm in eastern Ohio every bit like the picture which I suspect most people have of what farms are like . . . dairy cows grazing peacefully in the rich green pasture, chickens clucking happily as they scratch about the yard, the sweet smell of clover in the air, delicious red potatoes growing in the rich black soil on the hillside, huge juicy Fairfax strawberries waiting to be picked out in the strawberry patch, my grandmother's pies cooling on the window sill.

Modern factory farms bear no resemblance to that. Take our chickens clucking happily. Media ads assure us that Frank Perdue chickens, for example, life in "a house that's just chicken heaven." I realize that as a people we have come to tolerate much hyperbole from the ad people. However, it should surely seem beyond the bounds of common decency to call what chickens go through in modern factory farms "chicken heaven."

Chickens no longer cluck happily about the barnyard in today's industrialized farms. In fact, there are no barnyards anymore. The modern chicken house is a world of assembly lines, conveyer belts, and fluorescent lights. Chickens aren't even called "chickens" anymore. They are

now simply "broilers" (if bred for their flesh) or "layers" (if bred to lay eggs). Upon hatching from incubators at mechanized hatcheries, the broiler and layer chicks are immediately sent by conveyer belt to large windowless warehouses where they will be kept in small wire cages, stacked on top of one another from floor to ceiling. Male chicks, since their flesh is considered less desirable and they won't lay eggs, are most often simply thrown away. "Chicken-pullers" weed out the males from the hatching trays, and toss them into heavy duty garbage bags. The chicks are left to suffocate.

The broiler and layer chicks in the windowless warehouses are now destined for a life within a totally controlled environment, designed to make them grow as fast as possible, or to lay as many eggs as possible, with the least cost to the large agribusinesses which own them. Chickens have normal life expectancy of 15 to 20 years. In contrast, modern layers might expect to live two years, and broilers might survive for two months.

This is only the beginning of the story. Chickens are highly social creatures by nature. Left to themselves, they lead a subtle and complex social life, developing stable social hierarchies, "pecking orders," in flocks as large as 90 birds. What happens in the modern factory farm where such social needs are completely frustrated, and

typically 80,000 birds are jammed together in a single warehouse? The chickens literally go berserk. I can't put it more bluntly than that. Cooped-up in such crowded conditions, the chickens fight constantly. They peck viciously at each other's feathers, trying to kill one another, and even trying to eat one another alive. The poultry trade terms such behavior a "vice" since it obviously threatens profits.

Chickens in factory farms live in a constant state of panic and hysteria. They stampede and fly into an uproar at the slightest provocation. Some are smothered as frantic, possessed birds pile on top of one another. The poultry producers try to solve this problem by packing the birds even more tightly into the wire cages so that they can barely move. Hens are often housed five to each 16-by-18 cage, and sometimes even five to a 12-by-12 inch cage. Chickens under these extreme conditions often display what is called the "flip-over syndrome." Birds suddenly jump into the air, sometimes emitting a loud squawk, and then fall over dead. Post-mortems show their hearts full of blood clots.

The poultry industry has devised some methods to deal with all of this. To curb the feather-pecking and cannibalism, the industry now regularly "de-beaks" chickens. De-beaking involves cutting off their beaks with red-hot

blades, thus cutting through highly sensitive soft tissue similar to that under our fingernails. This is another assembly-line operation, and is sometimes botched. The chickens with irregular beaks from the botched de-beakings will often starve or die from thirst since they will be unable to eat or drink from the nipple-type watering devices. Moreover, de-beaked birds still continue to peck at one another, and still manage to kill one another.

The overcrowding produces still further problems. The toenails of the caged hens continue to grow. Without solid ground to wear them down, they become quite long, get entangled in, and grow right around, the wire mesh of the cages. Birds which become stuck in this manner also starve to death or die of thirst. The solution to this is to cut off the toes of the chicks when they are a day or two old. In addition, those birds which in a natural setting would be low on the pecking order tend to huddle timidly in corners of their cages, also unable to reach food or water, and get trampled to death by the more aggressive captive birds.

With benefit of growth hormones, the broilers put on weight so fast that their bones and joints can't keep up. They become cripples, crouching down on their haunches and hobbling about on legs and feet which can't bear up under the unnatural weight. Dietary deficiencies also contribute

to these pervasive skeletal disorders. Today's chickens also suffer from what is called "caged layer fatigue." The loss of minerals from their bones and muscles eventually leaves these birds simply unable to stand.

Factory farm layers are also subject to a procedure called "force-moulting." When natural egg laying begins to taper off, layers are suddenly plunged into total darkness without food or water for several days. This process shocks the hens into moulting, the seasonal loss of plumage and growth of fresh feathers, the process which accompanies the hens' renewed ability to lay eggs. Those which survive this process are kept at work for as long as they produce. Those which don't survive are destined for our chicken soup.

After all of this, it should come as no surprise that factory farm chickens ("battery hens") tend to lose their feathers. Whether this is due to the constant rubbing against the wire mesh, the incessant feather-pecking, or the unnatural diet and lighting conditions, no one seems to know. It does mean that without their feathers, with their skin raw and sore and bright red, these chickens don't even <u>look</u> like chickens anymore.

They don't taste like chickens either. George Burns nicely summed up the general complaint in his quip about the first time he ate scrambled eggs without ketchup:

> I never knew they tasted like that. They tasted like the chicken wasn't getting paid.[3]

The poultry industry remains undaunted however. They have placed their eggs in the basket, so to speak, of biotech, genetic engineering, that next great growing point of the great god, Capital. As the Animal Research Institute of Agriculture, Canada, proudly announces:

> At the Animal Research Institute, we are trying to breed animals without legs, and chickens without feathers.[4]

3. What about pigs?[5] Is life on the factory farm any better for those animals destined to end up in our pork chops? I suspect that one good whiff should tell us the answer. Like the chicken coop, the pigpen is a thing of the past. Just like chickens, pigs are housed in huge warehouses, each pig in a narrow steel stall, all facing in the same direction, unable to move or turn around. The stalls, arranged side by side, wall to wall, and often even stacked on top of one another from floor to ceiling, are built on slated floors under which are huge pits into which the feces and urine of the caged pigs automatically drop. The stench from the ammonia-saturated air is simply overpowering. Pigs have sensitive noses. What must such a no-escape situation be like for them? Moreover, the ammonia eats up their lungs. Many factory farm pigs develop pneumonia or other respiratory problems.

Chickens go berserk in factory farm conditions, and so do pigs. Such severely confined animals constantly attack one another. This is known in the trade as "tail-biting." Pigs viciously attack other pigs by biting off their tails, and then continue to eat right into the backs of their mutilated victims. Like the poultry producers, the "pork production engineers," as modern pig farmers like to be called, have hit upon a solution. They cut off the pigs' tails. This is known as "tail-docking." It causes the pigs severe pain, and makes them mean and crazy.

Factory farm pigs also suffer crippling effects in their feet and legs from standing on the concrete or metal slat floors of their stalls. Pigs are cloven-hoofed. The outer half of the hoof is longer than the inner half. In a natural setting outdoors, that extra length is absorbed by the softness of the soil. On concrete or metal, only the soft inner tissue can "give." Hence, these pigs develop painful lesions in their feet. They begin to take on abnormal postures in an effort to relieve the pain. The effect of all of this is that the crippling will spread as joints and muscles in legs and back get overworked from abnormal use. The pigs end up as cripples, just as the chickens do.

Producing more pigs, and fatter pigs, at less cost is the main aim of these modern factory farms. Sows normally

bear around six piglets a year. With hormone injections to control the estrus cycle, the factory farm sows now produce over twenty piglets a year, and may soon produce as many as forty-five a year. Baby pigs are immediately taken from their mothers after birth despite the distress this causes the mothers. The babies are placed on a mechanical teat called "pig mama." The sows are thus freed up for the business of being pregnant again. Hormone injections can also cause a sow to produce huge numbers of eggs. These can then be fertilized either inside or outside the womb, with the resulting embryos surgically implanted in other sows to be carried to term there. This is the procedure known as "embryo transfer."

These new factory farm bred pigs come with their problems though. Bred to be fatter and fatter, these pigs tend to be so top-heavy that their bones and joints often literally crumble beneath them. There is also a high birth mortality rate among these pigs. None of this dismays the genetic engineers however. They are hard at work "trying to create pigs that have flat rumps, level backs, even toes, and other features that hold up better under factory conditions."[6]

Finally, it should be noted what pigs get to eat on the modern factory farm. In order to cut costs to a bare minimum, pork producers often serve up a menu that features

recycled waste. Sometimes this simply amounts to raw poultry or pig manure. Sometimes the only water provided comes from an "oxidation ditch, which channels the liquid wastes from factory manure pits back to the animals."[7]

4. What about beef and dairy cattle?[8] Is life any better for them on the modern factory farm? Let's begin with how cattle are transported. A 1906 federal law placed certain restraints on how cattle can be shipped by rail. No such laws apply to trucks. So the meat industry almost always ships cattle by truck. As you may have already anticipated, these trips are no Sunday outing for the cattle. Ventilation is terrible, so the stench within the trucks rivals that of the pig warehouses. In addition, temperatures soar in summer and plummet in winter. The cattle may spend up to three days and nights without food or water. Some of the animals will freeze to death in winter. Others will die from heat prostration or dehydration in summer. Some will suffocate when others are thrown on top of them as the trucks go around curves. Many will survive, but badly bruised, battered, and crippled from the pounding. Some will die simply from the shock and stress of the whole ordeal. Most of the deaths however, one for every hundred survivors, are due to a form of pneumonia called "shipping fever." Shipping fever has been called the most costly animal disease in the country. The

meat industry has responded to shipping fever by using an antibiotic called chloramphenicol. Minute traces of chloramphenicol can cause aplastic anemia, a fatal blood disorder, in a small but significant number of human beings.

Now the cattle which survive these shipping ordeals are hardly home free. They will first be dipped in a trough of insecticides, then de-horned, branded, and injected chemicals. The bulls will be castrated. Steers and castrated cattle have more body fat, and so, bring a better price. Anaesthetics for castrations are required by law in Great Britain. There are no such laws here, and pain-killers are rarely used. The castrated animals are then implanted with synthetic hormones to offset the deficiencies brought on by the castration. The de-horning is necessary because of the extreme overcrowding in the modern factory farm feedlots. The de-horning often results in hemorrhage, maggot infestations, and infections. Life in the feedlots for the survivors then consists in rounds of chemicals, hormones, antibiotics, and other drugs, and a varied diet of sawdust (laced with ammonia and feathers), shredded newspaper (complete with the toxic ink from the Sunday comics and ads), "'plastic hay,' processed sewage, inedible tallow and grease, poultry litter, cement dust, and cardboard scraps."[9]

Life is not much different for dairy cows in the modern milk factory. Chained at the neck in narrow stalls, again with concrete or slated metal floors, kept continuously pregnant, implanted with hormones to boost milk production, immediately separated from her offspring at birth, the modern dairy cow is treated simply as a four-legged milk pump. Dairy cows would normally live 20 to 25 years. Today's dairy cow is lucky to live four years.

The male calves born to dairy cows face an even worse fate. They become veal calves. Veal is produced by subjecting male calves to a process pioneered in this country by Provimi, Inc. of Watertown, Wisconsin. The Provimi method consists in keeping the male calves chained down in tiny narrow stalls within which they can neither stand nor lie down naturally, nor turn around. They cannot even twist their heads to lick themselves. For the four-month fattening period, the calves are fed a mixture of fat and government surplus skim milk. Such a diet is intended to induce severe iron-deficiency anemia in the calves. The severe anemia and total lack of movement give the calves' flesh that tender white quality so prized by veal lovers.

The calves are given no water. This forces them to consume more of the skim milk/fat mixture than they normally would. This hastens the fattening process. They are kept in complete darkness except for two daily

feedings. Many of the calves go blind, and die shortly after.

The calves develop a desperate craving for iron, and would even lick up the remaining iron in their urine if they could reach it. Metal stalls have been replaced by ones made of hardwood to prevent the calves from licking iron off their stalls. During this entire four-month period, the baby calves, whose strongest instinct and need is to suckle, are given absolutely nothing to suck on at all. They are given drugs like nitrofurazone and chloramphenicol though to help keep them alive.

5. This is life then in the modern factory farm.[10] What are things like at the end of the line for these animals in the slaughter house, or the "meat-packing plants," as they are euphemistically called? The Federal Humane Slaughter Act states that "the slaughtering of livestock and the handling of livestock in connection with slaughter shall be carried out only by humane methods."[11] Is this actually what happens? Well, we do have the "captive-bolt pistol" to stun animals unconscious prior to killing them. However, slaughterhouses can save a penny an animal by not using it. So they don't. Few slaughter-houses are actually inspected for compliance with the Act. Furthermore, chickens, turkeys, ducks, and geese receive no protection since they are not considered animals by the Act.

In reality, the animals are moved along by handlers called "floggers." The young are frequently butchered in the sight of their mothers. Captive animals must witness the slaughter of their fellow creatures. There is simply no effort made to hide their fate from them. Moreover, much ordinary slaughterhouse butchering is in fact "kosher slaughter." Orthodox Jewish and Muslim dietary laws require ritual animals to be fully conscious when killed. In addition, the Pure Food and Drug Act of 1906 requires that slaughtered animals not fall in the blood of previously slaughtered animals. This means that animals are now killed while hanging upside down by one leg from a conveyer belt. A cow, for example, will be shackled by the rear leg, jerked into the air, tearing joints and often breaking the leg, and will be left to dangle and twist in pain and terror for several minutes, until a clamp is inserted in its nostrils to secure it for having its throat slit.

Kosher meat is meat with the blood vessels cut out. Preparing meat in this way is costly. So meat packers only choose to render kosher those parts of an animal for which it is economical to do so. The meat left over is sold to supermarkets under normal labeling. Thus, while most animals are killed kosher, most meat is not sold kosher.

The slaughterhouse is no picnic for those who work

there either. Slaughterhouse workers have the highest turnover rate of any occupation in this country. They also have the highest injury rate. Slaughterhouse working conditions are extremely difficult. The air is filled with stench. The floor is slick with animal grease. There are the cries of the animals and the noise of the equipment. Amidst all of this, in blood-spattered white coats and helmets, workers must wield chain saws, electric shears, and razor-sharp knives. To say the least, this is not an ideal way to make a living.

This is life in the modern factory farm and slaughterhouse. It is not a story which the meat, dairy, or egg industries want us to hear or dwell upon. As a matter of fact, the lobbies for these industries present "educational materials" to school children which tell a very different story. Smiling animals are depicted as gladly "giving" themselves to be our food. Life is all rosy down on "Uncle Jim's Dairy Farm." Children are presented with jingles like "My bologna has a first name," or "Oh I wish I were an Oscar Mayer Wiener." Ronald McDonald assures children that hamburgers grow in hamburger patches.[12]

Thus, the meat, dairy, and egg industries attempt to implant in us quite early the seeds of denial, repression, and ignorance. And it works. Most of us don't want to know where our food comes from. For all we care, it could

just magically appear on the freezer shelves of our supermarkets. It's as if we really are afraid that if we learned the truth, it would make us change our lives.

Learning the truth about factory farms and slaughterhouses has certainly challenged me to change my life. Modern animal-consuming practices brutalize animals, and they also brutalize the people who engage in them. We have built "cruelty into our diet,"[13] and I just can't stand being a part of that any longer.

Now it certainly won't do for me to try to fend off this challenge by entertaining some such thought as this:

> We have always eaten animals. We are predators. They are our natural prey. It's our nature, our ecology. So the pain and suffering caused are really unavoidable.

This won't do for several reasons. For one thing, it simply isn't true that human beings have always lived on such a meat, milk, and eggs-centered diet as First World western nations now do. For most of human history, eating lots of meat has been a luxury of the rich. For another thing, even if it were true that human beings had always and everywhere eaten as we do now, that would not automatically settle the moral question whether we should go on eating this way. That men have always raped women doesn't justify rape. What has been or is the case doesn't in itself decide what should be the case. Finally, it seems

grossly unfair to compare what we do in factory farms to what happens between predators and prey in the wild. Predators don't torment their prey or cause them to suffer on anything like the scale on which we brutalize animals in factory farms.

As far as I'm concerned, the issue should rest here. The suffering of these animals should be enough to change our minds and hearts and eating habits. That suffering should be enough to change us all into vegans. Vegans are pure vegetarians who consume no animal products whatsoever, and who refuse to use any other animal byproducts, like wool, silk, fur, or leather, because these items come from the factory farms and slaughterhouses also.

However, I can readily imagine someone maintaining that all this animal suffering is just a necessary evil which we must learn to put up with because we must eat meat after all. Otherwise, we simply wouldn't get enough protein. We would die. In this next section on nutrition, I look at this sort of argument from necessity for our current meat-eating practices.

Nutrition

6. Nutrition is certainly an area riddled with myths.[14] You would at least expect doctors to know the truth. They don't. Most doctors know very little about

nutrition. They don't see that as their business. They have been trained to fight disease with drugs and surgery, not prevent it through hygiene and diet. The average doctor in this country has received less than three hours of training in nutrition in medical school. Only 30 of our 125 medical schools require even a single course in nutrition.

Thirty years ago, doctors were not a reliable source of information about smoking, either. Many doctors smoked themselves, and many even recommended smoking to nervous people. They were taken in by the tobacco industry, just like everyone else. A famous Camel cigarette commercial even proclaimed: "More doctors smoke Camels than any other cigarette." Cigarette smoking was supposedly a part of good health.

Today, we live in a similar situation with regard to our meat, milk, and eggs habit. The meat, milk, and egg lobbies are hard at it, assuring us of the supreme benefits of their products. The Meat Board has even taken out extremely expensive full page color ads in the Journal of the American Medical Association to ensure that doctors don't miss the message. The heightened activity of these lobbies is a sure sign that these industries sense that they face a crumbling of their protective myths, just as the tobacco industry did. People once "knew" that meat is

a good thing to eat, just as they once "knew" that cigarette smoking is harmless. People are no longer so sure. They shouldn't be.

The central myth here is really quite simple, once you think about it. "You need to eat flesh to build flesh, muscle for muscle, tissue for tissue." Once put that way, the claim should strike one as no better than an expression of primitive sympathetic magic. "Like causes like" (somehow). Why should we expect a claim like that to be true? As we shall see, in this area of nutrition, the truth lies elsewhere.

Let's start with some items that should raise our suspicions about what the meat, milk, and egg industries have been telling us. At the end of World War I, an allied blockade of Denmark forced a mass experiment in vegetarianism there as the Danes began to eat the nation's grain, rather than feeding it to livestock. Scientists were surprised to learn that during that period, Denmark's overall mortality rate dropped over 34%, the lowest in recorded history.

A similar thing happened during the German occupation of Norway in World War II. Vegetarianism produced a dramatic drop in the death rate. Britain and Switzerland during the same period show the very same results: a direct correlation between improved health and less

consumption of meat and other animal products.

World Health statistics also reveal a strong connection between meat-eating and life expectancy. The Eskimos, the Laplanders, the Greenlanders, and the Russian Kurgi tribes, the greatest animal flesh consumers, have the lowest life expectancy, only about 30 years. This is not a result of harsh climate. Those with the highest life expectancy, 90 to 100 years, also live in harsh climates. These include the Vilcambas in the Andes of Ecuador, the Abkhasians of Soviet Georgia, and the Hunzas of Kashmir. They are all total vegetarians, or close to it.

Another way to put the myth about meat is that meat gives strength. Is this true? Again, there is reason for doubt. Irving Fisher at Yale in 1907 designed a series of strength and stamina tests to compare meat-eating athletes, vegetarian athletics, and vegetarian non-athletics. The average score of the vegetarians was over double the average score of the meat-eaters, even with half the vegetarians non-athletics. A comparable Paris study showed vegetarians averaged two to three times more stamina then meat-eaters, while requiring only one-fifth the time to recover from exhaustion. A Danish team tested a group of men on a variety of diets, using a stationary bicycle. On a mixed diet of meat and vegetables, the group averaged 114 minutes pedal time on the bicycle. On a high meat

diet, they averaged only 57 minutes. On a strict vegetarian diet, they peddled an average of 167 minutes. Doctors in Belgium compared vegetarians and meat-eaters squeezing a grip-meter. The meat-eaters averaged 38 times, while the vegetarians averaged 69. There are many studies like this, all showing the same results. So much for the myth that meat gives strength.

Here's just a little more anecdotal evidence. There are many examples of world records being achieved by vegetarian athletics. Dave Scott has won the Hawaii Ironman Triathlon a record four times. Sixto Linares holds the world's record for the longest single day triathlon. Both are vegetarians. Olympic gold medalists Edwin Moses and Paavo Nurmi, the legendary "Flying Finn," are on the list of vegetarian superathletics. Champion swimmers Murray Rose and Bill Pickering are vegetarians. So are champion body-builders Andreas Cahling from Sweden and Roy Hilligan of the United States. This list can go on. Strictly speaking, these examples only show that a vegetarian diet has worked well for certain individuals at a particular time. However, I do think mentioning them helps break the grip on us of the myth that we will be weak if we don't eat meat.

7. One of the central myths about meat is also a myth about protein.[15] "We need lots of protein, and only meat

can give it to us." Ironically, the truth of the matter is almost the exact opposite. We need very little protein. It is quite easy to obtain all we need. One would have to try hard not to get enough. In fact, most of us in the First World get too much protein. Excess protein is a positive danger. It leads to osteoporosis.

Let's examine the real story about protein in some detail. What do impartial experts say our protein needs are? The American Journal of Clinical Nutrition says we need 2 1/2% of our total daily calories from protein. The World Health Organization says 4 1/2% of caloric intake. The Food and Nutrition Board also recommends 4 1/2%, but then adds a 30% safety margin which brings the figure to just under 6%. The National Research Council suggests 8%, also with a substantial safety margin figured in. I take pleasure in noting that these august authorities are in basic agreement both with human mother's milk which provides 5% of its calories from protein, and with radical nutritionist, Nathan Pritikin, who says that only 6% of total calories should be from protein.

These suggested figures are important for several reasons. For one thing, they help highlight the fact that we Americans typically consume twice as much protein daily as we should (70% of which comes from animal flesh and dairy products). They also help us see just how easy it is

to get enough protein in one's diet, and to get it from plant sources alone. This is because almost all vegetables, beans, and whole grains have at least 10% of their calories in protein. Broccoli has 45% of its calories in protein, lentils 29%, potatoes 11%, and brown rice 8%. So even if you ate nothing but broccoli or brown rice, you would be getting enough protein, provided of course you were eating enough broccoli or brown rice to get the calories you need each day. People have lived, and continue to live, without protein deficiency solely on rice or potatoes as their main protein source. Even in places like India where people suffer from calorie deficiency and other dietary deficiencies, it is estimated that the people suffering still have a 10% surplus of protein in their diet. As Nathan Pritikin has remarked, "It's practically impossible to get below nine percent in ordinary diets."[16] One would have to really work at it to develop a protein-deficient diet. There are outlandish examples, of course. A pure junk food diet of coffee, cookies, soda pop, jams, and jellies would turn the trick, as well as producing deficiencies in every other nutrient we need. Trying to live on fruit alone, say apples, grapes, or pineapples, as some new age kids were doing a few years ago, would also do it. However, there is one serious real-life example. In parts of West Africa and Indonesia people have only the

cassava root as a staple. The cassava has about 2% of its calories as protein. These extremely populated areas do suffer genuine protein deficiency. Tragically, the leaves of the cassava are usually not eaten, yet they contain nearly 18% of their calories as protein. It should go without saying that all of those starving around the world aren't getting enough protein, or enough of anything else for that matter. This condition is called "kwashiorkor." But as John Robbins acidly remarks: "We hardly need a fancy name for someone who is starving to death."[17]

It should be clear that for those of us safe and sound in the First World, getting enough protein is truly a "nonproblem." This nonproblem bears on another, the recent controversy over what is called "protein complementarity." Frances Moore Lappe popularized this notion in the first edition of her highly influential Diet for a Small Planet. As she now admits in retracting the view, Lappe, like all the rest of us, bought into the myth spun out by the Meat Board, the National Dairy Council, and the Egg Board, that the pattern of amino acids in animal protein was superior to that found in plant protein. Eggs, especially, were supposed to provide the ideal amino acid pattern. Vegetable proteins could only approximate this ideal if properly combined in certain ways. This mainly took the form of mixing dried beans with whole grains at the same

meal. Lappe was encouraged in this by what turns out to be merely a happy coincidence: many traditional meals mix beans with grains. In Latin America, corn tortillas are eaten with beans; in the Middle East, bulgur wheat is eaten with chick-peas; in India, it's lentils with rice, and in China, it's soybeans with rice.

However, we now know better, and Lappe has been both brave enough and humble enough to say so. Most plant foods have more than enough of all the essential amino acids. Rice, for example, is supposedly weak in the amount of isoleucine and lysine which it contains. Yet rice provides 266% of the recommended daily allowance for isoleucine, and 265% of the requirement for lysine. Amino acid patterns turn out to be totally irrelevant, and plant protein turns out to be in no way inferior to animal protein just because the amino acid patterns in plants are different. As a matter of fact, as we shall see shortly, plant sources of protein are in fact superior because of the fiber and nutrients which they do contain, and the saturated fat and cholesterol which they don't. In any event, protein complementarity turns out to be completely unnecessary.

The myth also lingers that there is a direct connection between hard physical labor and the need for protein. This is a version of the "meat gives strength" myth. It is a myth that dies hard. Protein is certainly

needed to replace enzymes, rebuild blood cells, grow hair, produce antibodies, and a few other things. Yet protein combustion is no greater during heavy exercise than during periods of rest. Working or playing hard requires more carbohydrates to burn, not more protein. That this myth dies hard is a sure sign of just how protein-obsessed a culture we really are. We pay a heavy price for this obsession. Too much protein is simply no good for us.

Excess protein leaches calcium from the body. It's as simple as that. Our bodies do not store extra protein. What we do not use each day must go. The liver uses calcium to help flush the unneeded protein. The more protein to be flushed, the more calcium to be used. Blood levels of calcium remain constant. So the extra calcium must come from somewhere. It comes from our bones. Extreme calcium loss results in soft, porous bones easily subject to fracture, the condition known as osteoporosis. One of every four women age sixty-five in this country suffers from it. Each such person has lost over half her bone density.

Moreover, the calcium loss cannot be offset by taking in more calcium. The more protein consumed, the more calcium is lost, regardless of the level of calcium taken in. African Bantu women take in only 350 mg. of calcium a day, yet suffer no calcium deficiency or bone loss. They

live on a low-protein diet. Eskimos, on the other hand, rank highest in both the amount of protein and calcium taken in per day and in incidence of osteoporosis.

The National Dairy Council (read: the milk lobby) spends millions to convince us that milk is the answer: drink milk, it has lots of calcium. This is especially bad advice for several reasons. For one thing, milk is a high-protein item. So milk helps cause the problem, not cure it. For another thing, even if our bodies could use the extra calcium in milk to offset the problem, which they can't, they can't get at that calcium anyway. The reason is milk is high in phosphorous (just like soft drinks). Our bodies maintain roughly a two to one calcium to phosphorous ratio. More phosphorous taken in is simply treated as more calcium lost. So drinking milk is one of the worst things one can do to stave off the onset of osteoporosis.

Eating lots of meat, fish, and eggs is certainly bad advice too. These are the most acid-forming of foods. They make our blood acidic. Our bodies must now use more calcium to restore the neutral pH balance in the blood. Most fruits and vegetables, by the way, are alkaline. No problem there.

Two final points about excess protein and calcium. For one thing, the more protein to be flushed, the more

eventual kidney damage. For the other, not all the calcium used to help flush the extra protein gets flushed itself. All-too-often it ends up crystallizing into kidney stones.

8. We should now spend some time looking at the connections which have been established between an animal products-centered diet and the so-called "diseases of civilization." These are the major degenerative diseases, such as heart disease and cancer, which are the leading causes of death in First World countries. Let's begin with heart disease.[18] The underlying cause of most heart attacks and strokes is the process called "atherosclerosis." It is commonly referred to as "hardening of the arteries." It would be more accurate to say "clogging of the arteries," for the process consists in fatty deposits called "atheromas" or "plaques" adhering to the inner walls of the arteries, thus reducing the size of the openings through which blood can flow. The medical statistics are in on atherosclerosis, and they are clear. Every major health organization in the world supports them, including the U.S. Department of Agriculture/Department of Health and Human Services. What story do they tell? This one, that diets high in saturated fats and cholesterol accelerate the process of atherosclerosis, while diets low in saturated fats and cholesterol retard it. As John Robbins vividly puts it:

> We can virtually stab ourselves in the heart with our forks by eating a diet that promotes atherosclerosis.[19]

So what are the overwhelming primary sources of saturated fat in the diet, and the only sources of dietary cholesterol? As one might guess by now, meat, fish, dairy products, and eggs. Coconuts, palm oil, and chocolate are the only non-animal sources of saturated fat. However, it is also good to remember that the process of hydrogenating poly-unsaturated vegetable oils turns them into saturated fats. There is also evidence that too much fat of any kind is not good for us. Excess fat in the diet keeps blood fat levels high, and thus promotes atherosclerosis. Of course, other factors like lack of exercise, stress, and smoking play a role in heart disease also, but compared to diet, they are quite marginal, except for smoking. The bottom line should come as no surprise: smoking and eating meat are killers.

The shameful part of this story is that just as the tobacco industry has tried over the years to suppress the truth, so has the meat, dairy, and egg industries (what you might call the "fat lobby").[20] To forestall the decline of their profits (read: to protect their greed), these industries have funded studies designed specifically to confuse the issues, and have worked to create the illusion that there is some great controversy surrounding the cholesterol

"theory." They like to point out that the liver itself manufactures cholesterol, and that there is such a thing as "good" cholesterol, carried in the blood by what are called "high-density lipoproteins" (HDL's). Yet they fail to mention that the body can produce all the cholesterol it needs without needing any in the diet, and that low-fiber diets actually lower HDL levels in the blood. Meat, fish, dairy products, and eggs provide no fiber at all.

The political struggle in this area has been intense. When the American Heart Association came out against saturated fats and cholesterol in 1971, the egg producers formed the National Commission on Egg Nutrition specifically to fight the AHA. This struggle eventually led to a lengthy court battle in which the Commission tried, but failed, to convince the Federal Trade Commission, The Court, and even its own lawyers that eggs do not raise blood cholesterol, and thus promote heart disease.

The National Dairy Council has long held sway over our schools under the guise of providing "nutritional education." We have all been groomed to see it as providing public service messages, rather than as the naked lobby it is. They are the people who told us that milk is "nature's most perfect food," and we believed them. They now send out food pictures designed to help preschoolers identify foods. The pictures are of butter and sixteen

other high-fat milk products. They provide first graders with bright-colored recipe posters for making milk shakes and pancakes. The recipes call for butter and ice cream. They tell overweight teenagers that "low calorie" items include angel food cake and ice cream![21]

In Wisconsin, "America's Dairyland," the dairymen formed a "Task Force on Nutrition and Cardiovascular Disease" which simply took over the local state chapter of the American Heart Association, and forced the local chapter to repudiate the official position of the national group.

In 1982, then Deputy Secretary of Agriculture Richard Lyng succeeded in suppressing an article about to be published in the agency's magazine Food/2 mildly critical of high-fat and cholesterol diets. Lyng was former president of the American Meat Institute.

Oscar Mayer maintains that its sausages aren't fatty. McDonald's would have us believe that a "properly balanced diet" can be had from Big Macs, fries, and shakes.

The list goes on and on. . . .

I think the Center for Science in the Public Interest should have the final word here. They cut through all the garbage, and call a spade a spade. Their official name for Wendy's triple cheeseburger? "The Coronary Bypass Special."[22]

9. What about cancer, the other major killer in the so-called developed countries?[23] Here again there is a mounting consensus that the single most important risk factor for cancer is a diet high in fats, high in protein, and low in fiber. The only exception to this is lung cancer for which smoking is the single major cause. Yet even in the case of lung cancer, diet can play a crucial role. Smokers with high serum cholesterol levels develop lung cancer seven times more frequently than smokers with low serum cholesterol levels. In addition, smokers can decrease their chances of contracting lung cancer by increasing the amount of plant foods rich in vitamin A in their diet.

The three most prevalent forms of cancer in the United States, colon cancer, breast cancer, and prostate cancer, the so-called "excess cancers," or the "cancers of civilization," have all been strongly linked to a high-fat, high-protein, low-fiber diet. Consider colon cancer. It should come as no surprise that meat-eaters will experience problems here. We are simply not carnivores by nature. We are not like dogs and cats, for example. The shape of our teeth is different. So is the chemical makeup of our saliva and digestive juices. Our colons especially differ. Ours are long with puckered walls full of pouches, and full of twists and turns. Theirs are short, straight, and

smooth. Food simply passes through them faster. In us, fiber helps speed up the process. Fiber also absorbs toxins. Without the fiber, the colon walls absorb the toxins, especially fat-induced bile acids and protein-produced carcinogens.

The simple truth is we are not designed to handle meat. Dogs and cats are. This is also why a dog can eat all the fatty meat and eggs it can get hold of without developing high cholesterol and heart disease. We are really frugivorous by nature, creatures designed to live primarily on fruits and vegetables, nuts and seeds. A quick look at the eating habits of our nearest relatives among the primates will bear this out.

The same stark connection exists for women between high-fat diets and breast cancer, cervical cancer, uterine cancer, and ovarian cancer. Women who eat meat, eggs, and dairy products are four times more likely to develop breast cancer. Excess fat in a woman's diet has also been linked to early menses and delayed menopause. These conditions themselves increase the risk of breast cancer.

The same pattern exists for men. The more fat in the diet, the greater the chances of prostate cancer. The more fat in the diet, the sooner the onset of puberty, and the greater the chances of prostate enlargement and prostate cancer.

10. This same story can be told for the various other major degenerative diseases, the other "diseases of civilization."[24] Whether we look at obesity, diabetes, hypoglycemia, multiple sclerosis, arthritis, ulcers, hypertension, anemia, gallstones, or even constipation, hemorrhoids, and appendicitis, we keep coming upon the same culprit: a diet centered on meat, dairy products, and eggs, rich in fats and protein, low in fiber, high in salt and refined sugar, and low in vital nutrients because everything is eaten in refined and processed forms.

Hypertension, high blood pressure, for example, is directly related to the amount of salt, fat, and cholesterol in the diet. High levels of fat and cholesterol in the blood cause platelets to clump together and slow the flow of blood. Salt draws water into the blood. These effects increase pressure on the arterial walls. We already know where we get the fat and cholesterol. What about sources of salt? Cheese is a major one, so are almost all processed foods, including most breakfast cereals, and so is practically everything prepared in fast-food establishments.

Anemia is worth touching on because part of the myth surrounding meat is that if you don't eat any, you'll become anemic. Some vegetarians have indeed become anemic, but the reason they have is that they have tried to sub-

stitute dairy products for the meat they have given up. Dairy products, along with refined sugars, fats, and processed foods, are in fact iron-deficient. To get the iron in a bowl of broccoli, you need a "pat" of butter as large as your refrigerator.[25] Moreover, most vegetables are far superior sources of iron. The reason is we need vitamin C to aid iron absorption. Dark green leafy vegetables, especially, are excellent sources of both. Meat is not.

Also a word about arthritis, specifically gouty arthritis, or "gout." Gout occurs when uric acid deposits cause pain and swelling in joints, often in the big toe. High uric acid levels in the blood are a direct result of too much fat and protein in the diet. (Go through a novel like Tom Jones with an eye for what the English gentry ate, and you'll see why so many characters in English novels seem to suffer from gout.)

Now this link between disease and diet should be stunning. It was once common sense. Yet how do we as a culture react to it? We don't. We go on without it. Instead, we start the "War on Cancer." Let's face it, fighting cancer is big business. So is fighting any other disease. We go in for attacking symptoms, and search for a "magic bullet"[26] that will cure cancer. That's where the money is. (To my lights, this is one of the most profound

expressions of the violence of our culture. It results in that arms race with the microbes we've already mentioned, and to which we shall return.) Now diet is not a "magic bullet." That's the problem. It is a way of preventing disease, and only rarely a way of cure. No money in that. The glamour and the capital are all in going for that phantom, a cure.

11. We need to take a hard look now at what has come to be called "America the Poisoned."[27] This section will serve as a bridge between the section of nutrition and the next section on ecology. Let's look first at salmonellosis. This is a potentially fatal form of food poisoning caused by bacteria found in contaminated animal products. Salmonella bacteria are endemic among chickens. Moreover, inspection for this disease is not required by law, so meat packing plants don't do it. How widespread is salmonella poisoning? 60 Minutes asked the head of the USDA Inspection Service in March 1987. He ventured that the odds are better than one in three chickens in our supermarkets today is contaminated. Stunned, 60 Minutes did its own test. Over half the chickens purchased were infected. The National Research Council also decided to do a test. Ninety percent of the poultry from a plant they examined were contaminated.[28] By the way, cutting up a tainted chicken can contaminate your entire kitchen.

Salmonella bacteria can spread from hand and knife to bowl and salad quite easily.

Next consider the Puerto Rico case. In the early 1980's, Puerto Rican children suffered an epidemic of premature sexual development. There were one-year olds whose teeth had not completely come in yet with enlarged breasts. Five-year olds already had developed uteruses and vaginal bleeding. Some of the boys also developed early, and had enlarged breasts. In 1982 the cause was found--local milk, poultry, and beef laced with growth hormones, hormones banned in the U.S., but marketed in Puerto Rico.

I consider this case emblematic. First World domination of the Third World, the rich foisting their poisons off on the poor, the evils of the rich man's meat habit, the special vulnerability of poor Third World women--it's all there in this one example.

We've already alluded to the vast quantities of antibiotics and growth hormones fed to cattle, pigs, and chickens on the modern factory farm, what John Robbins aptly calls "the pharmaceutical farm."[29] Factory farms are not only places of extreme systematic cruelty, but vast breeding grounds for flies and other parasites. The animals are sprayed, doused, and bathed in chemicals. They are injected with them. They get them mixed in their less-than-ideal feed. The grain they are fed has been

sprayed with them. The soil in which that grain is grown has been laced with them.

What are some of these chemicals? Toxaphene is one. Cattle are sprayed with it to kill parasites. How deadly is toxaphene? Let's put it this way--it's definitely in the running for the world's most deadly substance. Microscopic doses cause bones to dissolve. Entire herds of cows have been killed from the spraying. Toxaphene is absorbed through the skin, and retained in the flesh.

Heptachlor is another. Rachel Carson singled it out in Silent Spring. A pesticide, heptachlor causes cancer at the lowest levels tested, one-half part per million. Its maker, Velsicol Chemical Corporation, has fought its ban every step of the way, and is still winning. Heptachlor continues to be sprayed on land used to grow corn for livestock feed. In December 1986, Banquet Foods admitted destroying 200,000 chickens in Arkansas contaminated with chlordane, a variety of heptachlor. In April 1986, milk with high levels of heptachlor was recalled in six states. At the same time, USDA-donated beef was recalled from California schools for the same reason. The same April, 70% of nursing mothers in Arkansas were found to have breast milk high in heptachlor.

Just one more example. Everyone has heard about the use of Agent Orange in Vietnam. Its two active ingredients

--2,4-D and 2,4,5-T--continue to be sprayed on land used to grow food for livestock. (Lane County, Oregon intends to resume spraying roadsides with 2,4-D.) 2,4,5-T contains perhaps the most toxic chemical in the world--dioxin. Dioxin causes cancer at one part per trillion. A single drop will kill a thousand people.[30]

All of this is just the tip of "the toxic chemical iceberg."[31] The horror stories are beginning to filter through--the PBB incident in Michigan in the mid-1970's, enormous DDT residue around the planet, the kepone poisoning of the James River in Virginia in the 1970's, the contamination of perhaps every single living organism on this planet with PCB's . . . this story is without end.

A major cause of concern is that these toxic chemicals can damage our immune systems themselves. We are setting ourselves up for devastating epidemics. In such a poisoned world, should a disease like AIDS come as any surprise?

Moreover, modern factory farms are a prime breeding ground for drug-resistant bacteria. Spraying crops with pesticides and feeding antibiotics to livestock ensure that species evolve which can no longer be killed off. For example, 90% of staphylococci are now resistant to penicillin. Salmonella bacteria are increasingly resistant to antibiotics, and are not all killed by cooking. This is precisely what we have referred to, following Stephen

Clark, as starting an arms race with the microbes.[32] It is a race we cannot possible win.

In such a poisoned world, eating meat, dairy products, and eggs is the last thing we should be doing. The reason has to do with the nature of the food chain. As Rachel Carson pointed out in Silent Spring, birds are the first to go in a poisoned world, because they are predators at the top of long food chains and receive large doses of toxic residue. Toxins build up in the tissues of animals. The buildup increases exponentially the higher up the food chain one goes. This is why meat contains fourteen times more pesticide residue than do plant foods.

This is also why eating fish and other seafood is an especially bad idea. For one thing, fish swim atop incredibly long food chains at the bottom of which are DDT-damaged microscopic phytoplankton. This in itself ensures toxic saturation. However, fish also literally breathe the water they swim in. This means they are continuously breathing in all the toxic wastes which are being poured into the world's rivers, lakes, and oceans. It's as if fish are "underwater magnets for toxic chemicals."[33] The same goes for shellfish that filter water. This includes oysters, clams, mussels, scallops, and other mollusks. This is not to mention that all seafood is laden with cholesterol.

It is also not to mention those practices of the modern commercial fishing industry directly comparable to those in factory farms. Fishermen regularly spray dying and rapidly decomposing fish in the hold of their ships with antibiotics in an attempt to retard spoilage and keep down the foul odors.[34] Moreover, it is not to mention that the tuna fishing industry yearly kills tens of thousands of dolphins despite the passage of a mammal protection act to curb such practices.[35]

A note on the recent fish oil fad. Fish oils contain linolenic acid, the so-called omega-3 fatty acid, which is heralded to help reduce serum cholesterol levels. Fish oils do this all right, but they do it by thinning the blood, thus decreasing its ability to clot. Heavy consumers of fish oils like Eskimos show the results. Eskimos are prone to fatal nosebleeds, and are high risks for strokes. (Besides, the high protein content in fish makes them especially vulnerable to osteoporosis, despite their heavy calcium intake from fish bones. Either way, the Eskimo way of life can hardly be considered ideal.)

In addition, fish and fish oils are themselves high in cholesterol. All that extra cholesterol ends up in the gallbladder and colon, producing cholesterol gallstones, and increasing the risk of colon cancer. Consuming fish and fish oils has also been linked to extended pregnancies

with their increased death rates for both mother and baby.

Fish oils contain only 10% omega-3, anyway. Far better sources of omega-3 are the dark green leafy vegetables, walnuts, and legumes grown in northern climates, like kidney beans and pinto beans. These vegetable sources also have the additional virtue of presenting us with the proper mix between linolenic acid (omega-3), linoleic acid (omega-6), and oleic acid (omega-9).

All of this is just all the more reason, as Michael Klaper puts it, to let fish "off the hook."[36] Against this background, it does not inspire confidence to learn that half of the world's fish catch is fed to livestock.[37]

I will end this brief look at America the Poisoned with an anecdote whose irony highlights the kind of problem we face. On April 5, 1973 the FDA banned the artificial coloring agent Violet No. 1. Violet No. 1 had been found to be a cancer-causing agent. The irony is that "the Department of Agriculture had been using the dye to stamp meats with the grades of "Choice," "Prime," and "U.S. No. 1 USDA." For over twenty years, the U.S.D.A. had been reassuring customers their meat was healthy by stamping the meat with a cancer-causing dye."[38]

12. Now in looking back over this section on nutrition, I am able to say that what I have learned about nutrition has brought me to the very same conclusion I

reached after learning about modern factory farm conditions. The only thing that makes good moral sense is to stop eating meat, fish, eggs, and dairy products. In other words, the only thing that makes good moral sense is the switch to a vegan diet. The vegan boycotts the cruelty of the factory farm. The vegan also boycotts the poisons produced there.

In the case of nutrition, only a vegan diet can help prevent heart disease, cancer, and the other so-called "diseases of civilization." A vegan diet of fresh fruit and vegetables, dried beans and whole grains, with a modest use of nuts and seeds, has everything necessary for excellent nutrition. It is a diet rich in vital nutrients, rich in complex carbohydrates, and rich in the various kinds of fiber needed, not only from whole grains, but also from fresh fruits and legumes. In addition, it is a diet low in fat and protein, low in sugar and salt, and with no cholesterol. In other words, it is the exact opposite of the animal foods diet we have found so dangerous. Moreover, a vegan diet provides a rich range of flavors, aromas, textures, and colors completely hidden from the typical consumer of animal foods.

I can now draw together my moral reflections up to this point. The challenge at the end of the last section came to this: granted that there is immense suffering in

the factory farm and slaughterhouse, isn't that suffering simply a necessary evil, since we must eat animals in order to survive? We can see how to answer this challenge. Eating animals is not only not necessary for our survival, it is positively harmful to it. Our meat-eating habit is torturing and killings millions of our fellow creatures a year. It is also killing us!

I could stop here. However, I would like to add a third section. I would like us to consider what it costs the planet to sustain "the Great American Steak Religion."[39]

Ecology

13. Let's begin with waste.[40] Here is the basic truth. We don't grow food for people. We grow livestock feed. Over half our farmland is used for just that. Animals eat over 80% of the corn we grow, and over 95% of the oats. As a matter of fact, American livestock consumes enough grain and soybeans to feed over five times our population. The world's cattle alone consume enough to feed 8.7 billion people.

All of this might not be shocking if the payoff were reasonable. What is the payoff? For every sixteen pounds of grain and soybeans fed to beef cattle, we get back a pound of meat. Most of the rest becomes manure. We lose

94% of the protein we feed beef cattle, 88% in the case of pigs, 83% for chickens, and 78% for dairy cattle. By cycling our grain through livestock, we lose 96% of its calories, 100% of its fiber, and 100% of its carbohydrates. Food for a year for a person with a meat habit requires three-and-a-quarter acres. A vegan only requires one-sixth of an acre. In other words, a single acre can feed twenty times more vegans than standard American meat-eaters. That acre can grow 20,000 pounds of potatoes a year. That same acre, if used to grow cattlefeed, will yield less than 165 pounds of beef. An acre of land growing broccoli will produce ten times the calories and protein that cattle raising will. That acre growing broccoli will also produce 24 times the iron, 80 times the vitamins B-1 and B-2, 650 times the calcium, and 9500 times the vitamin A. Enough grain is lost to American livestock every day to provide every human on earth with two loaves of bread a day.[41]

In part, this incredible situation illustrates a sober truth about the nature of the food chain. The higher up the food chain you eat, the more energy is lost. Species eating at the top of the food chain always have fewer numbers because they have a much smaller food supply. Animal predation is basically inefficient. So this is what we get for trying to be "big, fierce" carnivores, like lions and tigers.[42] All of this in a world in which a

child dies of starvation every two seconds, and in which the average American housecat eats more meat than the average family in Costa Rica.[43]

However, the issue is not simply that of the horrible waste in food of not feeding people directly. There is also the matter of the land itself. The truth is that there simply is not enough land to go around to sustain the world's population on an American style diet. What little unused land is yet available would have to be heavily fertilized and heavily irrigated. This would simply increase our needs for more water and more fossil fuel. In addition, topsoil loss and soil erosion on all the land currently in use for livestock raising is occurring at an alarming rate. At present estimates, we are losing an inch of topsoil every sixteen years, somewhere around seven million tons a year, and over four million acres of cropland due to erosion. This loss applies to over half the total land area of the United States, since that much land is given over to livestock raising. Eighty-five percent of this loss is directly due to overgrazing and to monoculture crop growing for animal feed. Adding insult to injury, there is this matter of what some critics have come to call the "amazing graze." The cattle industry gets to graze their cattle on public lands throughout our western states. This is yet another case of big business, this time the

cattle industry, with its fist in the public till. We are paying them to graze our lands to death, turning them to desert. They get to take the money and run. By the way, don't look for any quick fix. It takes 500 years to build an inch of topsoil.

There is also this little matter of water. Over half the water used in the United States is used for irrigating land for growing stock feed. A typical family uses less water in a month than it takes to produce a pound of meat, 2,500 gallons. It takes less water to produce a year's food for a vegan than a month's food for a meat-eater. A pound of meat requires a hundred times more water than a pound of wheat. As Newsweek put it, "The water that goes into a 1,000 pound steer would float a destroyer."[44]

The serious effects of all this waste of water are no longer ignorable. The great Agallala Aquifer, stretching from Texas to Nebraska, is our single greatest groundwater source. Fifty years ago, it was virtually untouched. By 1961, it was already down 20%. It will be gone in thirty-five years. This is not even to mention the additional problem of all that salt left behind by all this irrigation destroying the soil, and filtering down into groundwater below.

> The frog does not drink up the pond in which he lives. (Buddhist Proverb)[45]

The American meat habit doesn't merely waste water. It pollutes it too. Fifty years ago, manure from livestock returned to the soil to enrich it. Today, that manure ends up in our water. The sheer amount of waste produced in today's factory farms is staggering. The livestock of this country produces twenty times as much excrement as all the rest of us who live here. The largest feedlots, with 100,000 cattle, have a waste disposal problem equal to that of New York City or Los Angeles. Animal waste is high in nitrogen. The nitrogen converts to ammonia and nitrates. Dumping livestock wastes into our rivers and streams turns them into nitrate reservoirs. Feedlot wastes are "ten to several hundred times more concentrated than raw domestic sewage."[46] Factory farm wastes account for more than ten times the water pollution produced by human beings. The meat industry alone pollutes three times as much water in this country as all of our other industries combined. The U.S. Department of Agriculture even used to encourage stream dumping of feedlot wastes. It no longer does so, but the manure still gets dumped there.

The economic cost of this depletion and pollution of our water supplies is hidden from us by federal and state water subsidies to the meat industry. We unknowingly pay the meat producers to use up our water. Economists David Fields and Robin Hur charge that these water subsidies

threaten the economies of seventeen western states. In the Pacific Northwest for example, meat producers consume over half the water used in the region, yet Oregon, Washington, and Idaho still have to import most of their meat. For people in these states, the price of using so much water to produce so little meat is concealed in their soaring electrical costs. Livestock producers draw water upstream from the hydroelectrical plants on the Snake and Columbia Rivers. So much water is withdrawn that the cost of generating electricity gets pushed higher and higher. And so out goes the call for nuclear power.[47] This is just one more example of how all things are connected, including the evil things.

Moreover, livestock producers use an enormous amount of electricity themselves. As a matter of fact, they use up a lot of energy, period. Producing meat, dairy products, and eggs uses up one-third of all raw materials used in this country! By contrast, a vegan diet would require only 5% of that amount.[48] Corn or wheat provide twenty-two times more protein per calorie of fossil fuel used, and soybeans provide forty times more, than does feedlot beef. The whole assembly line approach to modern factory farming simply gobbles up the fossil fuel, yet provides few jobs. The story on fishing is no different. Coastal and deep sea fishing are both extremely energy-intensive. It takes

twenty calories of fossil fuel to produce one calorie of food from fish. This makes a fish diet fifty to one hundred times more energy consuming than a vegan diet.[49] You might put the bottom line to this entire story on energy this way: so wasteful is our American meat habit that driving a gas guzzler is not as bad as eating meat![50]

Finally, there are the forests, or rather, there were the forests. They are practically gone. Since 1967, forests have disappeared in this country at the rate of one acre every five seconds. Around the world, the rate of deforestation is almost one hundred acres per minute. The overwhelming major cause? Clearing land for livestock grazing and/or growing livestock feed. The United States Forest Service and the Bureau of Land Management clearly assist the meat industry in this process. Cattle ranchers get to lease federal forest lands at a tenth the price they would pay for private land, and they get to clear-cut to boot. At the present rate, the United States will be stripped bare of its natural forests in fifty years.

We simply need our forests. They replenish our oxygen supply, moderate our climates, prevent floods and soil erosion, and recycle and purify our water. Tropical rain-forests in the Third World are especially important. They protect us from the greenhouse effect by withdrawing excess carbon dioxide from the atmosphere. They are home

to over half of all species on earth, most of which remain uncatalogued. In destroying the tropical rainforests, we simply don't know what we're destroying. One-quarter of our medicines already come from materials found in these forests. We simply don't know what future plant sources of food and medicine will be discovered there.

Yet the cutting worldwide goes on. Tropical rainforests are being leveled at the rate of 150,000 square kilometers a year. That's an area the size of England and Wales combined. One-fourth of the Amazon has been cut, and two-thirds of the Central American forests. At this rate, the rainforests in Central America will be gone in forty years, and those throughout the rest of the world will be destroyed in seventy years. As for species extinction, Norman Myers estimates that we are right now losing one or more species a day (1,000 species a year) due to rainforest destruction. In the coming decade, that rate of loss will become one or more species an hour (10,000 species a year). We will lose over a million species in the next thirty years.[51] That's nearly one-fifth of all species on earth. Such massive destruction can only leave us in a world with a "pest and weed" ecology. The vacated niches will be filled by those aggressive opportunists, rats, roaches, and ragweed.[52]

However, something quite powerful stands in the way of

our saving our few remaining tropical rainforests. One could call it "the Big Mac Connection." There is a direct causal relation between tropical rainforest destruction in Central and South America and the fast-food chains and food processors in this country. The fast-food chains are prime buyers of Latin American beef. After all, it's cheaper to import it from there than to raise it here. It's cheaper for us, of course, but not for Latin Americans. They can't afford their own beef. Most of that beef (over 80% in Brazil) is exported, if not here, then to Western Europe, and now to the Far East (Japan and South Korea), with that ultimate market, China, waiting in the wings.

What we have in Latin America are the rich cattle ranchers clearing rainforests on the good level land, and the poor peasants, pushed onto the steep slopes, forced to clear still more simply in order to survive.[53] Clearing rainforests is especially catastrophic. Rainforest soil is quite delicate. Most of the forest's nutrients are up in the biomass, the plants and trees and the thin layer of humus on top of the ground. When the big cattle ranchers, supported by Swift-Armour or United Brands or the King Ranch, come in, they sling a huge chain between two huge tractors, level everything in sight, burn the debris, then fly a plane over to seed the ash with guinea grass. The guinea grass grows like mad on all that rich ash for the

first three years or so. After that, things fall apart. Once the ash goes, the grass quits growing, the ground becomes exposed, and dries up hard as a brick. It is now totally useless. The cattle ranchers move on to clear more rainforests. This new desert is left to the peasants. Their plight is worse than ever. They can't even grow their black beans on all that brick. They are now exposed to ever increasing flooding as the entire Amazon system rises from the runoff from all the clearing. In addition, the cattle ranchers may not have used tractor-and-chain to do the clearing. They may have used herbicides like Tordon, or 2,4-D, or 2,4,5-T instead.[54] Recall that 2,4,5-T (basically Agent Orange) contains dioxin, one of the deadliest chemicals on the face of the earth. Tordon in turn leaves a residue deadly to all broad-leaved plants. The peasants couldn't plant black beans again even if the soil hadn't turned to brick. (Again, none of this is even to mention the ongoing destruction of primal cultures, as native peoples continue to lose their ancient tropical rainforest homes.)

Once that rainforest beef gets here, it will end up "in everything from hot dogs to canned soup."[55] After being inspected at points of entry, such beef need no longer be labeled "imported." It goes right on to the customhouse brokers and meat packers, and then on to the

fast-food chains and the food processors. This is precisely how the fast-foods people can get away with claiming that they're not using foreign beef.

All of this is just one more example of Capital's "manifest destiny," destroying trees, birds, and Indians without mercy in its march across the Americas. Big business and big government are both directly responsible for rainforest destruction. The U.S. Department of Agriculture, U.S. AID, the World Bank, the Export-Import Bank, and the Inter-American Development Bank, have all actively assisted cattle raising in the rainforests. Brazil, for example, provided the following incentives to cattle ranchers in Amazonia: "a 50 percent income-tax rebate on ranchers' investments elsewhere in Brazil, tax holidays of up to ten years, loans with negative interest rates in real terms, and exemptions from sales taxes and import duties."[56] Although no longer offered to new ranches, these incentives still continue for existing ones, costing Brazil $63,000 for each ranching job created.

These then are the effects on world ecology of the American meat habit. By growing food for livestock rather than people, we waste not only the food itself, but topsoil and water, fossil fuel and electricity, and destroy countless species of trees, plants, and animals to boot. All of this simply in order to satisfy "a Big Mac attack," simply

in order to satisfy our collective addiction to meat.

This need not happen. It need not go on. We could become vegans. A world of vegan gardeners and farmers would look entirely different. Two hundred million acres could be returned to forests in the United States alone. David Fields and Robin Hur estimate that a vegan spares an acre of trees a year.[57] We could stop building roads into the rainforests, and stop the clearing. We could let the rainforest grow back. With vegan methods of growing (permaculture techniques, integrated pest management, and so on), we could stop the monoculture farming and the irrigation, thus saving and restoring topsoil and water. Vegan gardening and farming is meant to work best at the local level, open to everyone, whether in the First World or the Third World. We could thus say goodbye to big agribusiness with all of its energy-eating heavy machinery. We could at long last say goodbye to the factory farm, with all of its cruelty and poison and waste.

Sadly to say, however, our track record has not been good. Our eating habits are well-captured in a quip of Ring Lardner:

> I've known what it is to be hungry, but I always went right to a restaurant.[58]

14. We have nursed this meat addiction for a long, long time.[59] In fact, early prehistoric peoples used fire

to destroy many forests, precisely in order to create grasslands for the animals they hunted. Human hunting practices in part led to massive animal extinction between 50,000 and 10,000 years ago. Hunting-gathering is basically inefficient.[60] A primal hunter requires over ten square kilometers (more than 2500 acres) to sustain a meat habit. Hunting-gathering simply can't support that many people. By 10,000 years ago, there simply were too many people, too few animals, and not enough land. Livestock agriculture gradually evolved as the solution to this crisis. Cattle raising became the central practice of those nomadic peoples who came to rely almost entirely upon animal products, and who were thus set on a continuous search for new grazing land. In contrast, urban centers were forced to rely more and more on plants as sources of food and other products for their growing populations. Eating meat became more and more a luxury of the urban elites who ran these cities.

Moreover, the roots of war lie in the rise of livestock agriculture. The struggle between the roving herdsman and the settled farmer has gone on since the dawn of history. The Genesis story of Cain and Abel alludes to that struggle, and Genesis reveals its pastoral bias in having Cain, the farmer, murder Abel, the herdsman. Plato, in the Republic Book II (372A-374E), also links the origin

of war with meat-eating. Eating "pig's flesh" turns the simple "city of pigs" into the "feverish city" which goes to war. The bond between meat and war is even enshrined in human language. Supposedly, the Indo-European word for "war" is also the word for "more cattle."

The legacy of this turn to livestock agriculture, whether in pastoral or urban form, is there to be seen. Simply take a look at all the great deserts of the world. Consider, for example, all of that barren land stretching from the great Kara-Kum and Kyzyl-Kum deserts in Turkmen and Uzbek in the southeastern Soviet Union, across Iran and the Middle East, across Turkey, then ringing the Mediterranean from Greece to Spain, and finally back across northern Africa, with the Sahara pushing ever deeper south into Africa. All of that desert is the direct result of cattle raising since recorded history. The Sahara was not a desert 10,000 years ago. Hippopotamus and other swamp animals were living in what is now Mali as late as 5,000 years ago.[61] Recall also that North Africa was once the granary of the Roman Empire. Hannibal got his elephants from the forests in Tunisia.[62] The Arab conquests proved especially destructive around the Mediterranean, for these were perhaps the most extensive victories for pastoral nomads over the urban centers and peasant farmers since the so-called Kurgan invasions from the Asian Steppes into

central Europe and Mesopotamia, between 4,300 and 2,800 B.C.E.

Nothing has basically changed. We continue to turn the world into a desert, while stubbornly clinging to our meat addiction. In Africa, for example the Sahara marches ever further south, in the wake of the cattle herds. Yet poor countries like Ethiopia and Mozambique will not part with their livestock. Forty percent of Ethiopia was still forest fifty years ago. Only two to four percent remains. In the midst of famine, Ethiopia maintains the largest livestock population in Africa.[63] Mozambique in turn even imports beef to satisfy its urban elite. It continues to grow its corn to feed cattle, not people. It has thrown out colonialism, but is still held captive by a deeper slavery.

Poland and the Soviet Union reveal the same pattern. They experience food shortages precisely because they try to eat the American diet high in meat and other animal products. They end up having to import meat, or grain for livestock, or both.

15. I need not go on. The morale of this story about diet should be stunningly clear by now. We have approached this question about what we should eat from three different paths. All three paths lead to the same conclusion. We have looked at modern factory farms. We have seen the

suffering and the poison and the waste there. We have looked at nutrition. We have seen that eating meat is killing us. We have looked at the world's ecology. We have seen the needless waste of resources and the senseless destruction of countless species.

In the face of all of this, can there be serious doubt that this question about what we should eat has become a moral issue for each of us? Can there be serious doubt about what the answer to this question about diet should be? This seems to me to be as clear and as decisive a case as one could have in moral matters. I simply don't see that any other response can possible make good moral sense. We must become vegans. It's as simple as that. Only the vegan says no to factory farms. Only the vegan says no to bad nutrition. Only the vegan says no to ecological destruction.

I have concentrated upon this issue of diet because it is absolutely central to our moral lives, and thus, is absolutely central to that radical, deep-green moral vision which I've tried to sketch. Many of those actively committed to this moral vision are not always clear about this. The issue of diet is not always placed at the center of the vision. Contrary to that lack of concern, I emphasize that the vegan diet must be at the center of the paradise vision.

Gender equality and peace between the sexes will not be enough. Stopping the arms race and taking apart the warfare state will not be enough. Gaining genuine social control over capital will not be enough.[64] These measures in themselves will not stop animal suffering. They will not prevent heart disease and cancer. They will not stop rainforest destruction. Only a radical change at the very heart of our personal lives, and of our political economy, will do that. Only a radical change in what we eat and how we grow our food will do that. Only a vegan vision will do that.

A doubt may linger. "What would be wrong with keeping a goat or a few chickens in the backyard for the milk and eggs?" At first blush, it seems that nothing would be wrong with it. Yet, a few moments of reflection should reveal that this would be basically an elitist practice. Most people in the world could not share in it. They could not do the same. There simply isn't enough room. To my lights, a paradise that is not big enough for everyone is no paradise at all. "We must live at a level that we seriously can wish others to attain, not at a level that requires the bulk of humanity <u>not</u> to reach."[65] As Gandhi put it, "We must live simply so others might simply live."[66]

Moreover, such small-scale livestock raising would

still involve holding animals captive and even killing them at times. It would still involve turning backyards into wastelands (assuming you granted your animals some freedom of movement), and it would still entail eating things that harm us, even though the toxic residue might be less. This criticism also applies to primal hunting practices. The lives of primal peoples are not beyond criticism, even if they have much greater respect for nature than we do.

In contrast, vegan horticulture is sustainable world-wide. It is something that we can seriously wish for everyone. The plain truth remains: the vegan diet is the moral diet.

In closing, let me suggest a symbol of everything that is wrong with eating animals. It is the image of the "Marlboro Man" from the cigarette commercials.[67] There he is, the lone, independent macho male, riding his horse, herding his cattle, on public land no doubt, turning it to desert, or on former rainforest land, turning it to brick, all the while chewing on his beef jerky, and smoking a cigarette to boot! It's all there in that one image.

The choice is clear: will we become vegans, or will we remain the Marlboro Man?

Notes

[1]In this chapter, I follow closely two excellent sources: John Robbins, Diet for a New America (Walpole, N. H.: Stillpoint, 1987), and Keith Akers, A Vegetarian Sourcebook (Arlington, Va.: Vegetarian Press, 1983). I heartily acknowledge my debt to both of them. However, I do not mean to be offering a summary of these works. I am trying to assemble vivid reminders of what moral reasoning is like in this area. This is in order to make the philosophical point that the details of a case are enough to decide it, that ontology is not needed to fill in any gaps in our moral reasoning. The appeal to Robbins or Akers is simply to make clear that the details mentioned in this chapter are not imagined, but are in the public arena, available from various sources.

[2]Robbins, pp. 48-72.

[3]Robbins, p. 68.

[4]Robbins, p. 64.

[5]Robbins, pp. 73-96.

[6]Robbins, p. 86.

[7]Robbins, p. 93.

[8]Robbins, pp. 97-121.

[9]Robbins, p. 110.

[10]Robbins, pp. 122-145.

[11]Robbins, p. 138.

[12]Robbins, pp. 125-132.

[13]Jim Mason and Peter Singer, Animal Factories (New York: Crown, 1980), p. 127.

[14]Robbins, pp. 148-169.

[15]Robbins, pp. 170-202; Akers, pp. 24-33; 52-54; 77-78.

[16]Robbins, p. 185.

[17]Robbins, p. 186.

[18]Robbins, pp. 203-247; Akers, pp. 56-64.

[19]Robbins, p. 208.

[20]Robbins, p. 219.

[21]Robbins, pp. 230-232.

[22]Robbins, p. 236.

[23]Robbins, pp. 248-273; Akers, pp. 65-74.

[24]Robbins, pp. 274-305; Akers, pp. 75-80.

[25]Robbins, p. 299.

[26]Robbins, p. 250.

[27]Robbins, pp. 301-305; 308-349.

[28]Robbins, pp. 302-303.

[29]Robbins, p. 335.

[30]Robbins, p. 322.

[31]Robbins, p. 324.

[32]Stephen R. L. Clark, The Moral Status of Animals (Oxford: Oxford University Press, 1977), p. 172.

[33]Robbins, p. 331.

[34]Michael Klaper, Vegan Nutrition: Pure and Simple (Umatilla, Fla.: Gentle World, 1987), p. 30.

[35]Andrew Davis, "Caught in the Tuna Nets: The Slaughter of Dolphins," The Nations, Vol. 247, No. 14 (November 14, 1988), pp. 486-488.

[36]Klaper, p. 33.

[37]Robbins, p. 331.

[38]Robbins, p. 338.

[39]Robbins, p. 134.

[40]Robbins, pp. 350-381.

[41]Robbins, pp. 351-352.

[42]Akers, p. 88.

[43]Robbins, p. 353.

[44]Robbins, p. 367.

[45]Robbins, p. 371.

[46]Robbins, p. 373.

[47]Robbins, pp. 367-369.

[48]Robbins, p. 374.

[49]Keith Akers, "A Case Against Fish Consumption," Ahimsa, Vol. 29, No. 4 (October/December, 1988), p. 3.

[50]Robbins, p. 375.

[51]Robbins, p. 365.

[52]Joseph K. Skinner, "Big Mac and the Tropical Forests," Monthly Review (December, 1985), p. 26.

[53]Skinner, p. 28.

[54]Skinner, p. 29.

[55]Skinner, p. 30.

[56]Skinner, p. 31.

[57]Robbins, p. 363.

[58]Robbins, p. 352.

[59]Akers, A Vegetarian Sourcebook, pp. 122-140.

[60]Akers, A Vegetarian Sourcebook, p. 124.

[61]Akers, A Vegetarian Sourcebook, pp. 126-127.

[62]Akers, A Vegetarian Sourcebook, p. 127.

[63]Akers, A Vegetarian Sourcebook, pp. 134-135.

[64]Akers, A Vegetarian Sourcebook, p. 138.

[65]Arne Naess, "A European looks at North American Branches of the Deep Ecology Movement," The Trumpeter, Vol. 5, No. 2 (Spring 1988), p. 76.

[66]Robbins, p. 355.

[67]Robbins, p. 272.

CHAPTER VII

ANIMAL RESEARCH

1. Let's now turn to the issue of animal research.[1] We do experiment on animals. Every year worldwide millions of animals suffer and die in order that human beings can test something or other. That something or other might be a new drug for arthritis, or a possible vaccine for AIDS. It might be a new theory about Alzheimer's disease, or a new theory about human aggression. It might also be the toxicity level of a new hair shampoo or a new floor polish. It might even be a new poison gas, or a new plastic bullet. For a range of reasons, animals are burned, poisoned, starved, given electrical shocks, addicted to drugs, fed diets to induce tumors, inflicted with diseases such as syphilis, herpes, and AIDS, subjected to near freezing conditions, reared in total darkness from birth, gassed, poisoned, and shot. They may have their bones broken, their eyes cut out, and their brains damaged.[2] Quite a list. But is any of it justified? Are we on moral high ground to use animals in these ways? This is what I want to get clear about in this chapter.

Let us first consider a standard philosophical defense of animal experimentation.[3] Michael Allen Fox has argued that members of other species are not our moral equals. Since they are not our moral equals, we are justified in using them to further important human goals. The advancement of scientific and medical knowledge would be among those important human goals. Hence, we are justified in experimenting upon animals, even to the point of causing them severe pain and killing them at times, in order to advance the cause of science and medicine.

This argument turns on the claim that animals are not our moral equals. Fox means by this that although animals may have moral status, may be properly entitled to our moral concern, they are not entitled to as much moral concern as our fellow human beings. What is the argument for such a claim? Fox reasons that animals do not count for as much morally as we do because they are not as psychologically complex as we are. Animals are not as important because they cannot do everything we can. They do not normally talk or reason as we do. They do not do mathematics and science. They do not write poems or plays, and so on.

Suppose we agree for the moment to play the game of assigning moral status. Why should we think that moral status is a function of psychological complexity? In our

own case, it would seem that we do not always think so. We do not assign infants or the infirm lower moral status. Yet they are unable to function as normal adults. One might respond that human infants and the infirm are at least members of a species with the potential for psychological complexity. This only serves to push our question back one step. What is so wonderful about belonging to such a species? Why should that determine who or what counts morally?

What I think one finds in playing the game of assigning moral status is that one quickly comes to a point where there is nothing further one can say in defense of one's criteria for moral status. This serves to make all such criteria look more or less arbitrary. In the case at hand, why should we accept any criteria for moral status which serve to underwrite human moral superiority? Why isn't that just speciesism, an indefensible bias in favor of our own species?[4]

I don't see satisfactory answers to questions such as these forthcoming. It is in part because I don't that I see it as unhelpful to approach our moral problems by way of moral theory. Arguments such as those offered by Fox fail to be compelling, although they intend to be. In fact, they are not so much arguments as restatements in other terms of what one already believes, namely, that

human beings are morally superior.

Because such philosophical arguments fail, room is left open for another possibility. We could approach our moral problems directly, perhaps seeing them against the background of a moral vision which we find worth exploring. That is the approach I tried to take to the issue of diet. I suggest it here again in the issue of animal research. I will explore what this issue looks like in the light of the paradise vision, that radical vegan moral vision which strives for deep friendship and harmony between the species. In order to do this, it might be best to center our discussion around what seems to be the most compelling argument in favor of animal research. This is the argument from dire necessity. We simply must do it. Research on animals is the only way to gain the knowledge necessary to combat human disease and suffering. That goal should override any moral qualms which we may have. This argument from necessity is at the center of what I want to call "the official story," that account presented to the public as moral common sense by those institutions which support animal research.

The official story is that we are of course justified in using animals in medical and scientific research. Using animals in commercial and military research might at first be thought more difficult to defend, but since most of it

can be linked in some way to the medical and scientific research, it receives a certain indirect justification. The official story then is primarily about medical and scientific research. So our attention in what follows will for the most part, but not entirely, be upon experiments done in medical or other scientific settings.

What does the official story say about the use of animals in such experiments? The Research Defence Society in Britain puts it this way: those antivivisectionists who call for an end to all animal experiments are "attempting the most cruelty to man and beast in the history of the world." "Animal research is essential to medical and veterinary research. Those who unnecessarily harass and restrict it now will carry a grave responsibility for the unnecessary ignorance and unnecessary human and animal suffering that will result in the future." "Only by animal experiments have there been such huge advances in general medical and surgical care."[5]

In other words, without animal research, enormous numbers of human beings would suffer and die. So much disease in the world has been eradicated because of animal research. Vaccines and drugs have been developed because of it. Basic medical insights are dependent upon it.

Moreover, how could anyone seriously question any of this? This is common sense itself. Anyone who doubts it

must be either morally misguided, unrealistic, soft-hearted and sentimental, or else some sort of crank, fanatic, or defective. So much then for all those who oppose animal experiments, that long line stretching from the antivivisectionists in Britain throughout the last century to the many animal rights and animal liberation groups around the world today. Such people are dangerously misguided. They are out to destroy science, the crown jewel of modern civilization. They are misanthropes, caring more about animals than people. They would return us to the Dark Ages, to a world of superstition and suffering, disease and death.

Well, that should certainly settle <u>that</u>. It would seem you would have to be out of your mind to question the official story. Sometimes though, it doesn't hurt to be a little out of your mind. That way little seeds of suspicion and doubt get planted which may grow and one day burst forth in radical new insight. Are there in this case reasons for suspicion and doubt concerning the official story about animal research?

Well, if the official story is really common sense, and any alternative to it madness, then why all the secrecy which normally surrounds such research?[6] It has been there right from the beginning. It hasn't arisen simply in response to the new militancy displayed by many animal

advocates. If vivisection is indeed so beneficial to all of us, and so harmless to the animals, then why are the oversight committees usually stacked with those who strongly support vivisection? "Is it possible that powerful vested interests are at stake that must be protected?"[7] Could it be that in questioning the official story, we are about to run up against naked power again, just as we ran up against it in the form of the "fat lobby," the meat, dairy, and egg industries, when we dared to question the traditional American diet?

Naked power likes to spin out myths with which to protect itself. We saw that in the case of the fat lobby and its myths concerning meat. Could the official story about animal research be itself a set of myths spun out to protect those who in truth benefit from these experiments? To answer this, we need to take a short, but serious, look at the history of medicine.

2. Let's begin with the ancient Greeks.[8] Hippocrates of Cos is justly considered the Father of Medicine, although there is undoubtedly a story yet to be told of all those countless women, the true Mothers of Medicine, who built up over the centuries a tradition of clinical discovery upon which Hippocrates could reply. Instead of resorting to magical rites and unquestioned folklore, Hipporcrates encouraged his students to discover the true

origins of disease by carefully observing the signs and symptoms of illness. Such work at Cos turned medicine into a true art which could only be acquired and refined by an ongoing process of trial and error.

A rich history of experience in clinical work became indispensable to developing a doctor's skills. Hippocrates also placed stress on the body's natural healing powers, emphasizing diet, rest, and hydrotherapy, and thus avoiding the need for poisonous drugs. In addition, Hippocrates' school of physicians conducted clinical experiments. These included using test meals to learn about a patient's digestion. Hippocrates also insisted upon strict cleanliness during surgery, expecting wounds to heal without infection. The school at Cos has been considered the Golden Age of Medicine. It did not experiment upon animals. Animals were safe on Cos.

Things changed radically with Galen. Galen made a reputation in Rome in the second century C.E., left before an outbreak of the plague, but was later asked to return. That he was has been called "one of the greatest misfortunes that medicine has ever suffered."[9] Unlike Hippocrates, Galen did not carefully record clinical cases. However, he did have time to hawk his miracle cures. Instead of clinical observation, Galen relied heavily upon a few simple theories about disease, including the theory

of the four humors.

Galen did go in for certain experiments, though. He cut open live animals. What he learned there he transferred directly to human beings. His long-influential account of human anatomy and physiology is based almost entirely upon animals. There were deep mistakes. Galen believed, for example, that the blood passed through the heart by invisible pores. More tragically, Galen also believed that the formation of pus was an essential part of the healing process. This is Galen's horrible doctrine of "laudable pus." It underwrote for centuries the idea that wounds should be deliberately irritated and contaminated. Even in the last century, surgeons still talked of laudable pus. Galen's pernicious influence helps to explain why the decay of the Roman Empire meant a radical decline in public cleanliness, hygiene, and sanitation. Ancient Rome and ancient Minoan Crete (2,600 to 1,100 B.C.E.) were both renowned for their elaborate and beautiful aqueducts, indoor plumbing, and sewage systems. The ancient world was basically clean. The medieval world, in contrast, was filthy. Medieval towns had no drains and no clean water; houses were dirty and ill-ventilated, and streets were narrow and foul-smelling. The Great Plague should have come as no surprise.

3. Galen's dogmatic influence, along with the

Church's refusal to permit dissection of human cadavers, ensured that "European medicine remained at a dead level for nearly 14 centuries."[10] Then came the Renaissance with da Vinci, Paracelsus, and Vesalius. They began to dissect and study the human body directly. Paracelsus caused public scandal by burning the works of Galen and Avicenna. Vesalius' great work The Structure of the Human Body (1543) was met with abuse and attempts to discredit. However, the work of undermining the great Galen went on. The French surgeon Ambroise Pare went after the laudable pus theory. He was the first to treat serious bleeding by tying a ligature around the cut artery, instead of burning it. Pare was also the one to abolish the use of boiling oil to cauterize gunshot wounds. Battlefield experience in 1536 led him to discover that bland dressings of egg-yolk, oil of roses, and turpentine worked far better than boiling oil. Then in 1628, William Harvey published his discovery of blood circulation, something known to the Chinese as early as 2650 B.C.E. It is clear that Harvey's discovery is a direct result of using da Vinci's work, conducting simple experiments upon himself, and carrying out autopsies on human cadavers. This should be emphasized because Harvey did in fact also experiment upon animals, but this work did not contribute to his discovery.

In London, the physician Thomas Sydenham began to

revive the practices of Hippocrates at Cos. Sydenham insisted that doctors learn about disease at the bedside, and rely on clinical observation, rather than general theory. He also used iron to treat anemia, cinchona bark from Peru to treat malaria, and mercury to treat syphilis. These remedies derived from clinical work, not animal experiments.

The same is true for the treatment of scurvy. In fact, knowledge of the cure kept getting discovered, forgotten or ignored, and rediscovered, over a 200-year period. Jacques Cartier learned how to cure scurvy from indigenous North Americans in 1535. In 1564, scurvy-ridden Dutch sailors cured themselves by eating oranges and lemons from their own cargo. In 1617, John Woodall wrote of the cure. Yet as late as 1747, James Lind, the British naval surgeon, was still conducting tests on his patients to confirm the cure. In 1795, the British Navy finally made lemon juice mandatory. Of course, in 1907, the Norwegians, Holst and Frolich, "confirmed" the cure by inducing scurvy in guinea pigs. (Lucky choice for them--many species don't require vitamin C in the diet.)

This same story applies to beri-beri. The tenth-century Chinese already knew that an unbalanced diet with too much polished rice was the culprit. Yet in 1897, Eijkman and Grijns felt it necessary to "confirm" the cause

of beri-beri by feeding pigeons a diet solely of polished rice. The histories of vitamins A and D, nicotinic acid, and vitamin B bear the same pattern. Cures for deficiencies were confirmed in people long before they were tested on animals.

4. Then came the great advances of the last century--the discovery of anaesthetics, and the rediscovery of hygiene.[11] With them came surgery at long last without pain and infection, and an effective way of handling the major infectious diseases. Pain-killers such as opium and Indian hemp had been used by Indian and Chinese surgeons since 3,000 B.C.E., but Europe lagged far behind. Then in 1800, Humphrey Davy accidentally inhaled nitrous oxide or "laughing gas," and suggested its use in surgery. The suggestion was in fact at first ignored, while laughing gas parties and "ether frolics" became all the rage over the next forty years, especially among medical students. Finally in 1842, Crawford Long used ether in an operation. Again, in 1847, James Simpson in Scotland accidentally came upon the anaesthetic properties of chloroform, and began to use it in his practice. James Esdaile in England even used hypnosis successfully in major operations. None of this owed anything to experiments on animals.

The same holds true for the rediscovery of surgical hygiene, something known to Indian doctors in the fourth

millennium B.C.E., and to the Greek surgeons under Hippocrates. The Greeks filtered and boiled the water used in surgery and to wash wounds. Wounds were expected to heal without infection. This aseptic view of surgical hygiene was challenged for a time by Joseph Lister's antiseptic view. Lister had been influenced by Pasteur's germ theory (to which we'll return shortly), and advocated using carbolic acid in an attempt to kill germs. Lister was strenuously opposed in this by British surgeons, Lawson Tait, John Harvey Kellog, and Granville Bantock, who insisted that Lister's antiseptics in fact hindered healing by damaging surrounding tissue. Lister eventually recanted.

Asepsis, the way of cleanliness from the surgeons of antiquity, received confirming evidence from the case of puerperal, or "childbed," fever. Here again, basic clinical discoveries had to be rediscovered time and again in the face of vested opposition. Phillipe Semmelweiss is famously credited with the basic discovery that childbed fever is a contagious disease carried on the dirty hands of midwives or attendants. In fact, Alexander Gordon published the discovery in 1795, and Boston physician, Oliver Wendell Holmes, did likewise in 1843. Semmelweiss himself made the discovery in Vienna in 1847, was promptly sacked for it, had to make a fresh start in Budapest, and finally

was able to publish his results from there in 1861. The case of childbed fever helped to bring home to everyone the overriding importance of cleanliness in surgery and patient care.

Animal experiments were thus irrelevant to the great development of safe, pain-free surgery. However, in the case of safe blood transfusions, animal experiments actually retarded progress. In 1667, French physician Jean Denis began transfusing lamb's blood into patients. So many died that no further attempts were made for over a century, and the Paris Faculty of Medicine even tried to prohibit blood transfusions by law. Gradually, the truth emerged that transfusions must rely upon human donors, not animals, and the technique finally became safe with the discovery of the main blood groups by Karl Landsteiner in 1900. Progress could have been more rapid if the French, for example, had not been so influenced by the Cartesian idea that animals are fair game for medical experiments.

5. There is another extremely important side to the rediscovery of ancient hygiene which we should look at.[12] This was the campaign to introduce public health measures and sanitation policies on the part of social reformers Edwin Chadwick in Britain and Lemual Shattuck in the United States. Chadwick, inspired in fact by Jeremy Bentham, set out under the Poor Law Act of 1834 to change a country

whose cities had streets and cellars filled with human excrement and every other kind of refuse, and pools of fetid water standing everywhere. Chadwick's vigorous reform efforts resulted in the Public Health Acts of 1848 and 1875. Shattuck embarked upon the same project in this country, where the same ugly pattern of social injustice as in Britain revealed itself--a tiny elite was very rich and more-or-less healthy, while the vast majority was both terribly poor and terribly sick. The direct medical result of these reforms in public health in both countries was a dramatic decline in the death rates of every single major infectious disease. This includes: tuberculosis, bronchitis, pneumonia, influenza, whooping cough, measles, scarlet fever, diphtheria, smallpox, cholera, typhoid, diarrhea, and dysentery. In addition, what is so striking is that all the declining death rates exhibit a stunningly similar pattern (nearly identical graphs of decline) in which the infections are in full and rapid decline by 1900 with 90% or more of the total decline completed by 1950, that is, completed <u>before</u> the introduction of antibiotics and widespread immunization. This truth should be allowed to sink in for awhile, for it runs directly counter to the official story about animal research which would have it that our one best and only defense against disease is drug-producing animal research.

To put it bluntly, the truth is drugs had practically nothing to do with the dramatic decline in infectious disease in Europe and America over the last hundred years. This is true even for diphtheria for which a horse antitoxin was introduced in 1894, and immunization in 1940. These measures did not affect the decline in the death rate of diphtheria in any appreciable way. Moreover, Berlin in the 1920's suffered a severe outbreak of diphtheria despite the antitoxin being used. The same thing happened during the Second World War in Denmark, Sweden, and Norway. As things stand at present, there is little evidence that the antitoxin actually works on human beings. Likewise, in the case of smallpox, for which Edward Jenner's vaccine was introduced in 1798, the decline in the death rate is directly tied to social reforms, not the vaccine. (At least it's not tied to the vaccine in the <u>right</u> way--Britain suffered a huge leap in the death rate of smallpox between 1871 and 1880, the exact period of legally enforced compulsory vaccination.) (Jenner's cowpox vaccine has been replaced by one made from cultures of human cells.)

The case of polio in recent history is distinct from those of the major infectious diseases from the last century. However, here too the official story is not born out. The death rate for polio peaked in 1947, then went into sharp decline well before the Salk vaccine of 1956 or

the Sabin vaccine of 1962. Moreover, there is evidence to suggest that the polio epidemic itself resulted from vaccinating children against diphtheria and whooping cough. In addition, although both Salk and Sabin made their vaccines from monkey kidney tissue, Enders, Weller, and Robbins had already shown in 1949 that the polio virus could be grown in human tissue culture. So both vaccines could have been produced from human cells. Today, they sometimes are, along with vaccines for rubella, rabies, measles, and smallpox. Most polio vaccine however is still produced from African green monkeys. Monkeys are a dangerous choice, for they harbor over sixty viruses which can become dangerous when they cross the species barrier. The polio vaccine in fact contains live SV40 virus which causes cancer, the Marburg agent, and the Herpes B virus. The African green monkey is also thought to be the source of the AIDS virus. Incidentally, producing polio vaccine from human cells was delayed because mouse cells became unstable when cultured with the virus. Shades of Galen. Here again animal research proved misleading.

So the polio story is hardly a feather in the cap of the official story about animal experiments. Rather, that official story should begin to falter under the pressure of this inescapable truth: what has conquered disease is not animal research, but social justice--improved nutrition,

hygiene, sanitation, and living and working conditions.

6. However, the official story is far from dead yet.[13] Someone might well ask about the rise of the study of bacteria and of the vaccines to control them. Surely, these count for something in modern medicine, and surely, animal research is vital to them. Well, let's have a look. Louis Pasteur is usually the one given credit for advancing the germ theory of disease, but as so often in these matters, he was hardly the first. Tarentius Rusticus formulated a germ theory in the first century C.E. So did Hieronymus Fracastorius in the sixteenth century. Then in 1683, Leeuwenhoek actually sighted micro-organisms with his home-made microscope. Similar discoveries over the next 150 years opened the way for Pasteur. Pasteur found that micro-organisms fermented alcohol, and caused milk, butter, and wine to sour. If microbes could make these items "sick," then why not people? Both Pasteur and his German rival Robert Koch turned to animal experiments to prove the germ theory. Koch even laid down a set of rules for what would constitute such a proof. These are Koch's postulates:

1. A specific microbe should always be present in a specific disease, but not in other diseases or in health;

2. The microbe should be grown alone in pure culture;

3. When injected into an animal, it should produce

the same disease.[14]

Ironically, Koch's work served to show how dangerously misleading animal experiments could be. First of all, using mice and other animals in India, he failed to turn up the microbe responsible for cholera. He had to turn to the microscope and clinical studies. Then Koch went after tuberculosis. Using infected animals, he developed a highly acclaimed cure: tuberculin. People flocked to Berlin for the miracle cure. The results were a massive disaster. Tuberculin produced new cases of TB, and made old cases worse. The reason: TB takes a different form in animals. Koch came to admit that his postulates were wrong.

Pasteur's own famous vaccine for rabies also proved a disaster. It both didn't actually work, and had dangerous side-effects. The reason: Pasteur developed his anti-rabies serum from rabid animal's brain tissue. Human beings are allergic to the brain tissue of other animals.

Perhaps most damaging was the way Pasteur and Koch set forth the germ theory. It served to focus attention entirely on the microbe, and on going to war with it. Thus, at heart, Pasteur's germ theory was politically reactionary. It made it convenient to ignore the social causes of disease, as if having TB in Dicken's England had nothing to do with being poor. At least Max von

Pettenkofer knew better. He brought down a typhoid epidemic in Munich by insisting on clean water. In 1892, he had put the germ theory to a dramatic test by taking a lethal dose of cholera germs. He suffered only mild diarrhea.

What we now know, or at least should, is that germs are only dangerous if the body can't cope. Germs are scavengers and garbage collectors. They will only start showing up in droves if the toxins and poisons are already there. That garbage is usually already there because of bad diet and/or wrong social class. As medical historian, Brian Inglis, puts it: " . . . microbes are more akin to looters in a city where law and order have broken down."[15]

We should know this, but we don't. Witness again our arms race with the microbes.

Claude Bernard at least knew this much, and he also rejected Pasteur's version of the germ theory. (Supposedly in the end, Pasteur did too.) However, it is really to Bernard that we owe the modern emphasis on animal experiments. With his mentor, Magendie, Bernard revived the legacy of Descartes, and "helped earn France the reputation of being the country of vivisection."[16] He glamorized laboratory science, calling it "true medical science," rather than clinical work with patients. Despite the errors of Galen, Pasteur, and Koch, Bernard continued to

insist that animal experiments have direct application to human beings. For reasons yet to be explored, people came to believe him.

7. At first the uptake was gradual, but since 1950, the number of animal experiments has skyrocketed, with over 144 million in Britain alone.[17] This might seem to spell victory for the official story. However, there is reason for disquiet. If animal research is protecting us so well, then why the tremendous rise in the incidence of all the so-called diseases of civilization, especially heart disease and the major forms of cancer? If vivisection on a grand scale is working, then why hasn't there been a massive improvement in health since 1950? Life expectancy has changed little since then, but the level of chronic illness has risen sharply. People may live a little longer, but they can expect more years of disability. In fact, the death rate from pneumonia for those 65-84 has shot up.[18] Our senior citizens are not getting healthier. Hospital admissions are on the rise; so are the number of prescriptions issued per person, and so are the number of working days lost due to illness. In addition, the life-expectancy of American males ranks only nineteenth among thirty-two developed nations, yet this country performs more animal experiments than any other--65 to 100 million a year.

What is going on here? Is it merely what the official story would like us to believe, namely, the more health problems there are, the more animal experiments needed to cope with them? This simply can't be the right story. Consider iatrogenic, or drug-induced, disease. Why have drug side-effects reached "epidemic proportions," even with the understanding that such side-effects are grossly under-reported? Three to eight percent of hospital admissions are due to adverse effects from drugs, and by conservative estimate, 40% of patients in general practice experience adverse drug side-effects.[19] Animal test just don't seem to be helping.

Moreover, there is good reason to expect that animal tests won't help us. That reason is simple: animals are not people. Different species react differently. Differences in drug metabolism between the species are the rule, not the exception. These differences include every aspect of a drug's action--rate of absorption into the blood-stream, dispersal to site of action, mechanism of action, metabolism, and excretion.[20]

The differences can be vast. So for example, morphine sedates people, but stimulates cats; aspirin causes birth defects in rats and mice, but not in people; tragically, thalidomide works just the opposite; penicillin is highly toxic to guinea pigs and hamsters, but not people; benzene

causes cancer in human beings, but not in mice; insulin produces deformities in lab animals, but not in people; nitrophenol causes cataracts in human beings, ducks, and chickens, but not in other lab animals; serotonin raises the blood pressure in dogs, but lowers it in cats; and aspirin poisons cats, but has no effect on fever in horses.[21]

Since animals can react differently, drugs tested on animals must be tried out again on human subjects, before they can be considered safe and effective. So why test drugs on animals at all, why the extra step, why the "idle shuffle?" The harsh truth seems to be that animal tests are performed for political and legal reasons, not for scientific or medical ones. They are a way for drug companies and governmental agencies to protect themselves against the charge that nothing is being done about drug safety. They help generate the illusion that our drugs are safe. In fact, animal tests are "a cruel and illogical response to public concern arising from the thalidomide disaster."[22]

The thalidomide case is the most infamous of the drug disasters.[23] It left 10,000 children crippled and deformed. Prescribed as a sedative or for morning sickness, thalidomide showed no toxic effects in animal tests. Women did begin to experience peripheral neuritis,

however. The massive disaster could have been averted if the drug had been withdrawn right then and there. It wasn't. Reason: animal tests did not confirm the side-effects. Then the reports of birth defects began to roll in. Again, the drug was not immediately withdrawn, because birth defects could not be induced in animals. Finally, the New Zealand white rabbit was hit upon, one of the very few species to react to thalidomide as human beings do.

The lesson that should have been learned from this terrible tragedy is that animal tests provide us with a false sense of drug safety, and that they positively hinder good clinical common sense. What lesson did the drug companies take from this instead? Conduct even more tests, this time on pregnant animals from a few representative species. That would not have prevented the thalidomide disaster. The right species would surely not have been tested. Moreover, in most cases, there simply will not be a "right" species.

Furthermore, the thalidomide case is only the tip of the iceberg. Animal-tested drugs like Opren, Zomax, Flosint, Zelmid, Ibufenac, chloramphenicol, Eraldin, and many, many others have all produced fatal disasters, and have had to be withdrawn or severely restricted. Understandably, the drug industry tries to muffle this sort of news. In fact, there would be even more drug disasters if

not for two things. For one, doctors are motivated to underreport adverse side-effects from drugs. For the other, little-publicized clinical trials with healthy volunteers and patients weed out 95 percent of the products passed by animal tests. This is exactly what you would expect, since animal models of human disease are so poor.

Animals provide poor models for a variety of reasons, not simply because of differing physiologies. Animals cannot tell us about nausea, headache, dizziness, amnesia, depression, and other psychological problems. Mice, rats, and rabbits, the most common lab animals, are unable to vomit. Allergic reactions, some blood disorders, skin lesions, and various central nervous system effects also often fail to show up in animals.[24]

In addition, animal tests can fail us in another major way. Not only can they fail to weed out the bad, they can unfortunately weed out the good instead. Penicillin, for example, would have been rejected if tested on guinea pigs. Fleming himself in fact lost interest in the drug and restricted its use to surface infections, because of what turned out to be misleading tests with rabbits. Many other useful drugs have been introduced without animal testing. Digitalis for heart conditions, quinine for malaria, and ipecac for amoebic dysentery are only a few examples.[25]

That animal tests can fail us in so many ways should

confirm our earlier charge that such tests really are merely an "idle shuffle" designed to protect the producer, not the consumer. Animal tests don't protect the public. They let the drug industry off the hook. This is born out in the ways the drug companies make use of them. Sometimes they leap to say that test results can be ignored, usually when they want to market a drug badly enough, even though it has failed the animal tests. Farlutal, Alexan, Diane, Tegretol, and various corticosteroid drugs, and anti-histamines are among the "failures" which still get marketed. On the other hand, the test results can be played up when that provides a marketing edge over rivals. How convenient a situation. The drug companies get to win either way. The Upjohn Company, maker of Depo-Provera, even showed that it was not beneath arguing that a US ban on its product should be lifted because animal tests proving it a danger could not be trusted.[26]

8. Let us be clear about this: drugs are big business.[27] In 1983, the twenty-five top drug companies reported sales of $35 billion. In 1985, the twelve leading drugs worldwide yielded sales of over $6 billion. Drugs also produce enormous profit margins. With sales over $2 billion in 1984/5, Eli Lilly had a profit margin of 32.98 percent. There is big money at stake here, and it's mainly in the First World. Little is spent on research

into Third World health problems. Yet the drug industry is hardly alone here. Only one percent of all that is spent on medical research is directed toward the Third World. Most is spent on the "affluent diseases": arthritis, asthma, obesity, anxiety and depression, and high blood pressure and other heart problems. Fifteen to twenty percent of all prescriptions are for mood-changers: anti-depressants, sleeping pills, sedatives, stimulants, and tranquilizers.

Moreover, the pharmaceutical industry hardly reveals itself to be morally responsible when it does turn its attention to the Third World. Products banned in the First World are aggressively promoted in the Third World. Product effectiveness is grossly exaggerated, and potential hazards are either minimized or completely omitted. Bribery even plays a role in Third World drug marketing. In addition, believe it or not, that marketing focuses on "luxury products" like appetite stimulants, and that in countries where people are starving!

One of the drugs promoted without warning is chloramphenicol which can cause fatal heart disease. (Recall that chloramphenicol is used on cattle with "shipping fever.") Another is clioquinol which caused a thalidomide-like disaster in Japan in the 1960's. Clioquinol produced nearly 30,000 cases of SMON (subacute

myelo-optic neuropathy), a disease producing paralysis and blindness. Japan banned it in 1970. Yet Ciba Geigy still markets it in Malaysia/Singapore and the Philippines.

Yet another example is amidopyrine which causes a fatal blood disease called agranulocytosis. Banned by the British in 1963, Ciba Geigy still sells it in at least ten Third World countries. The list goes on. Even in a country as poor and desperate as Bangladesh, the overwhelming majority of drugs marketed are "affluent drugs," drugs not on the World Health Organization's list of 200 essential drugs.

The drug firms make money in two ways: they market old drugs under new names, or they patent new ones. Old ones can even be made into new ones by changing them slightly, or combining them with other drugs. Such combinations account for over a third of all new products. The vast majority of new drugs are "me-too," or "copy cat," drugs, drugs that are slight and safe variations on old drugs, but with little or no therapeutic advantage. Their real advantage: they can be patented, thus giving a company monopoly rights for up to twenty years.

Moreover, not only are most new drugs not an advance upon the old, the vast majority simply don't work. Here is the verdict of Health Action International in 1986:

1. 80 percent of all antidiarrhoeals don't work;

2. 83.5 percent of all colds and cough medicines are irrational;

3. Three-fourths of the 888 vitamin preparations on the market cannot be recommended;

4. Three-quarters of the 356 analgesics are either dangerous, ineffective, or too expensive;

5. 73 percent of the 217 non-steroidal anti-inflammatory drugs on the world market should be withdrawn for the same reasons.[28]

Even an FDA report in 1977 judged that of 1,935 drugs introduced up to that point, only 3.3 percent constituted significant gains; 15.5 percent afforded "modest" gains, while 79.4 percent represented "little or no gain" at all.

Eighty percent of newly marketed drugs are "me-too" or copycat drugs. Of the other twenty percent, the so-called "new chemical entities" (NCE's), the vast majority are directed at the diseases of affluence, and only eight percent are considered important gains, anyway. Between 1971 and 1981, only one NCE (for schistosomiasis) appeared which was directed toward a genuine Third World problem.

It is very difficult to escape the conclusion at this point that animals are suffering and dying on a massive scale simply so we in the First World can continue our bad habits, and the drug industry can continue to turn huge profit margins. Yet none of this deters the drug firms.

They mount aggressive advertising campaigns aimed at the general practitioner, promoting their products in medical journals, by direct mailings, through sponsored meetings, and through a vast network of doctors who act as "opinion formers." These representatives or "consultants" are certain to enjoy all-expense-paid trips to "symposia" on new drugs at luxury vacation sites. In addition, the drug industry fosters a close relationship with doctors and scientists by funding medical and scientific education, meetings, and research, none of which can be expected to question seriously the need for using animals in research.

This case of drug testing is surely one in which the alternative to animal research is simply not to do the research at all. We surely do not need more me-too or copycat drugs. Animal tests act merely as public relations for the drug companies. Such tests are an idle shuffle, giving us a false sense of drug safety. They are no serious match for serious testing in a clinical setting. As medical critics and health care activists are beginning to point out, we should be committed to serious struggle against the immense power of the drug establishment. This means working for a "rational drugs policy" which would adhere to something like the WHO's list of 200 essential drugs (perhaps scaled down even more). New drugs could be added to the list only if they were proven to work, to be

safe, and to meet genuinely essential health needs. Norway has already started down this road, with a corresponding increase in life-expectancy.

Such a rational drugs policy would not only mean an end to animal testing, it would also mean more money available for genuine disease prevention (including nutritional education). It would also free doctors from the burden of choosing between thousands of indiscernible drugs. This would help work against the tendency of doctors to "reach for the prescription pad as the fast formula for health."[29] It would mean a long-needed attack on the myth that there is a "pill for every ill."[30] Such a myth serves to focus medicine on cure, not prevention, on what has been called "symptom swatting,"[31] rather than careful clinical work on the causes of illness.

Please make no mistake about this: the drug industry has a vested interest in our being sick. If we get well, they go out of business. They are naturally interested in symptoms, not causes, supposed cures, not prevention. The drug firms are also deeply invested in the factory farm. As we have sadly seen, the modern factory farm is a prime market for antibiotics, growth hormones, food additives, pesticides, herbicides, and many other drugs and chemicals. The drug companies certainly don't want to see such farms go under. A rational drugs policy would mean a definite

step away from that "arms race with the microbes." The drug firms and factory farms are now locked in a war with the "super bugs."[32] A rational drugs policy would bring a halt to that terrible nonsense.

By attacking the "pill for every ill" mentality, such a policy would also halt the epidemic in iatrogenic disease. We could stop the explosion in adverse drug side-effects. Such a shift toward prevention would mean we could give up our addiction to the "magic bullet" approach to medicine. We could stop pouring money down the drain of what are the "fast-food chains" of medicine, all those research programs which hold out to us that will-o'-the-wisp, an easy escape from the consequence of all our bad habits.

Such a refocus on prevention would also mean a long-overdue recovery of women's traditions in medicine. Such traditions are what ultimately lie behind the Hippocratic traditions in ancient Greece. These traditions emphasize natural forms of healing, simply helping the body cure itself through proper diet, rest, exercise, sunlight, bathing, and fasting. Women's traditions also emphasize herbalism, the use of whole plants and herbs to treat illness. Herbalists consider medicines derived from whole plants better balanced and less prone to adverse side-effects than ordinary drugs, which are either artificial

chemical compounds or concentrates isolated from plants. For example, digitalis is not as toxic when one is given the whole plant. The herb ephedra contains ephedrine, used to treat asthma. Ephedrine increases blood pressure and heart rate, but ephedra contains alkaloids which block these side-effects.[33] There is an entire world of natural medicine waiting to be discovered. Of course, all of this spells bad news for the drug companies. Their profit margins won't look quite the same when people can grow their medicine in their own backyard.

9. To go on, there are several other major areas of animal research where the only genuine alternative is simply not to do the research at all.[34] One of these is that animal testing done by cosmetics firms and household products companies. Cosmetics and toiletries, food additives, household products like detergents and polishes, pesticides, herbicides, and industrial chemicals are all tested on animals to determine their toxic content. The two most infamous tests used are the LD50 and the Draize test. The LD50 test determines what amount of a substance will kill fifty percent of a test group of animals. That amount is considered the "lethal dose" (LD). The Draize test consists in spraying or injecting a substance into one eye of an albino rabbit, and recording the results. Both tests are incredibly crude and obviously cruel.

In the LD50, for example, the test proceeds for fourteen days. The survivors are then killed, and all are checked for results of the poisoning. Dying animals in distress are not prematurely killed since that would supposedly skew results of the test. Animals often die not from poisoning, but from sheer overload of harmless chemicals. In addition, rats and mice are unable to vomit. Thus, the LD50 bears little likeness to the real human situation. Furthermore, the test runs right up against the problem that results very widely between species, and even within species. Results are even affected by such factors as "sex, age, degree of starvation, method of dosing, temperature, humidity, and even bedding material."[35] Variations in results between animals and human beings are the rule, not the exception. The LD50 cannot predict the lethal dose for human beings. Nor can it predict dose levels suitable for prolonged use. Relying on it can be quite dangerous. The LD50 says aspirin for example should be safer in overdose than ibuprofen. It isn't. It is fair to say that most scientists have come to agree that the LD50 is basically worthless. However, it is still widely used. Why? For PR purposes and to fulfill outmoded legislative requirements.

The Draize test is horribly crude because the rabbit eye is such a bad model for the human eye. The rabbit eye

has a third eyelid, cries less easily, has a different pH level in its aqueous humour, and has a cornea with different thickness, tissue structure, and biochemistry. Not only does this make results misleading, but test results also vary widely from lab to lab and tester to tester. What is severe eye irritation to one may be mild irritation to another.

Pressure from animal rights groups has certainly born fruit here. There are now several in vitro techniques which can completely replace the Draize test. Yet, what have the companies involved in these tests done? What amounts to the merest tokenism. Revlon for example has given what really amounts to pennies to the search for alternatives. Procter & Gamble has dropped the LD50. These may look like advances, but it is hard to escape the conclusion that they are simply attempts to disarm critics, to get the animal rights people off their backs. If these companies were genuinely interested in the welfare of animals, they would halt all animal testing immediately even if no viable alternatives existed (which they already do). For after all, what are we talking about here? We're talking about nail polish and floor wax! We hardly need more of either. Making animals suffer just to peddle cosmetics is hardly being on moral high ground. Yet, new products could still be developed by using safe, time-

tested existing ingredients. Cosmetics can be tested for skin irritancy by using patch testing with human subjects. In fact, to what should be the embarrassment of the large firms, at least a dozen new companies have sprung up marketing "cruelty-free" cosmetics and household products, products free of animal testing. There simply is no reason in the world why any of us should make animals suffer just so we can wash our dishes or shampoo our hair.

10. Another area where it should be absolutely clear that we should stop all animal research is that of military research.[36] Sadly to say, animals are the prime target in modern biological and chemical warfare research. Yet even here, as one might already suspect, animal tests prove unreliable. For example, the search for possible antidotes to nerve gases still requires the use of human volunteers since animal tests cannot be trusted. Antidotes that work on rats and mice may fail in guinea pigs and monkeys, and so on. So why torture and kill these animals in the first place?

The grotesque cruelty inflicted in these military labs is almost beyond belief. At Porton Down, the center for biological and chemical warfare in Britain, rhesus monkeys were shot through the head just above the eye with ball-bearings. Purpose? Supposedly in order to see how long it would take for them to die. Survival times ranged from 2

to 169 minutes. It later came out that Porton Down does not always use anaesthetics in wounding experiments.[37] Did it in this case?

What kind of mind would think up or do such things? What kind of mind would want to witness such things? What possible use could such experiments have? They help us to treat wounds, says Porton Down, Not so, says a long line of renowned surgeons, including the famous Lawson Tait from the last century. Surgical skills are developed by treating human patients, not experimenting on animals. That mistake goes back at least to Galen. It dies hard. The inescapable truth is that people at places like Porton Down simply enjoy seeing what their weapons can do.

Moreover, such research at places like Porton Down and Fort Detrick and Brookes Airforce Base in this country cannot seriously be called "defense" research. As with nuclear weapons, biological and chemical agents are primarily offensive devices. There are no defensive measures which could realistically be made available to the general public for its protection. Animals are simply not dying to save human lives. They are dying so that ever more hideous weapons of destruction can be developed. This is obscene.

11. Yet another area in which the only sane alternative to animal experiments is simply not to do the

research is that of experimental psychology.[38] This is an area where the experiments performed tell us more about the scientists themselves than about either animal psychology or human psychology in general. Here is a story which encapsulates the problem. Roger Ulrich spent years at the University of Western Michigan getting animals to fight by giving them powerful electrical shocks. This was his mother's reaction to his published results on pain-induced aggression:

"Well, we knew that. Dad always told us to stay away from animals in pain because they are more likely to attack."[39]

This same pattern gets repeated over and over again in lab after lab. Animals are subjected to stress, starved, shocked, drugged, and brain-damaged in order to teach us--what? That animals get sick and die if their food is taken away, or if they are deprived of sleep for thirty days, or if they are taken away from their mothers at birth? Immense suffering, trivial truths--that's the pattern.

In addition, we can't seem to get away from drug testing. Lots of it goes on in psychology labs too. Animal tests are supposed to help us understand drug addiction. Yet as always, animals are stubborn. They just won't behave as we would like. Animal tests failed to warn us that valium and librium are highly addictive. Animal

tests have told us nothing about addiction to nicotine or alcohol, two of our most serious problems. These tests simply have yet to produce.

Animal tests are also supposed to help us develop new drugs for mental illness. Now this is such pure hype that even the psychologists don't behave as if it's true. To use animals to find such drugs would require good animal models of the various mental illnesses. There simply aren't any. It's hard enough to define mental illness in people let alone in animals. So the psychologists are forced to fall back on developing animal models of the side-effects of drugs already in use. "New drugs are therefore tested on animals to see if they affect the same part of the brain."[40] Again, when these tests work at all, they simply tell us what we already knew from careful clinical work, for example, that certain tranquilizers can induce parkinsonism.

Much recent work in cognitive psychology has left the behaviorism of the vivisectionists far behind. Whether the move from the rat or pigeon to the computer as guiding model will prove helpful is itself problematic. At least it holds out the promise of less suffering for animals.

Again, there is a harsh truth here which can't be escaped: "the countless animals who have died in psychological experiments have not only died cruelly, but in

vain."[41]

12. What we have seen so far then is that entire areas of animal research simply cannot be morally justified.[42] Animal tests to produce me-too or copycat drugs serve to profit the drug-makers. Animal tests to produce cosmetics serve to profit the cosmetics-makers. Animal tests in psychology produce trivial results and serve to advance the careers of psychologists. Animal tests in weapons labs serve the war-makers. Such practices simply don't make good moral sense. The official story should now be considered in serious trouble. It gets medical history wrong: animal tests have not played a major role in any medical advances at all. Moreover, it cannot defend itself against the charge that vast amounts of animal research merely serve human greed.

Is there anything left to the official story? It would seem that only this remains: the issue of basic research. Are there areas of basic research in medicine and human physiology for which animal research is absolutely essential? To find out, let's examine some areas. Consider basic drug research. Against the background of the rational drugs policy described earlier, it can be sensibly argued "that sufficient <u>in vitro</u> techniques now exist so that almost any useful drug effect can be predicted without using animals."[43] Enzymes can be used to

predict blood pressure lowering effects. Blood platelets can be used to find drugs for heart problems. Human cancer cells can be used to test anticancer drugs. In fact, the US National Cancer Institute has finally decided to test new drugs *in vitro* using over one hundred different human cancer cell cultures. Antibiotics and antiviral agents for viral diseases like influenza, herpes, and AIDS can also be screened *in vitro*. In addition, the technique of quantum pharmacology now makes it possible to screen drugs by computer. Health Designs Incorporated in New York has developed computer programs to predict the toxic content of drugs. Health Designs can also screen drugs for cancer and birth defects. The well-known Ames' test uses salmonella bacteria to screen for cancer. Vaccines can also be tested *in vitro*, and as we have seen in the case of the polio vaccine, the only safe vaccine is one using human tissue (that is, if there is such a thing as a safe vaccine at all).[44] Finally, hormones and antitumor antibiotics can be measured by a procedure called "high performance liquid chromatography" (hplc), which doesn't use animals either.

The complaint is often heard that *in vitro* tests can't mimic the whole body. This sidesteps the fact that animal tests using the entire animal are as a rule so misleading. Moreover, this should be a dead issue. *In vitro* tests with human tissue now include human liver cells in order to

mimic the relevant metabolic processes.[45]

None of these in vitro tests with human tissue is meant to stand alone, of course. They supplement one another. Moreover, they must be supplemented in turn by that indispensable clinical work with patients and human subjects. Clinical trials themselves can then be supported by epidemiology, the study of disease within entire human populations. Such human-based medicine is vastly superior to any based on animals.

Consider also medical training. Here is another area where animals simply aren't needed. Models, diagrams, and films can certainly be used in place of dissection in schools. "After all, human anatomy and biology is taught at schools without dissecting a human corpse!"[46] An instrument called the "Biovideograph" can be used at the university and medical school levels to teach pharmacology and physiology. This is an interactive video device which allows students to conduct their own experiments. Computer simulation programs can also be used in teaching and research. Moreover, British medical students do not practice surgical skills on animals. They practice on human corpses, watch senior surgeons, and conduct supervised operations themselves. So using animals here can hardly be necessary. In addition, the normally discarded human placenta can now be used for training in microsurgery.

There is simply no good reason why vivisection should continue in our schools. Stopping it would mean stopping the horrible practice of "multiple recovery" surgery in which animals are subjected to practice surgery over and over again until they die from the shock of it all.

Lastly, consider basic research in physiology. Here again the case simply cannot be made that work with animals has led to major results. Clinical investigation and chance observation of patients with injuries have produced the major discoveries in both brain and stomach physiology. In that area so beloved by vivisectionists, the visual system, the first sight deprivation experiments on animals by Hubel and Wiesel in 1963 did not, contrary to popular myth, teach us anything new. Clinical studies had already revealed a critical period in the emergence of human vision.[47] Animals have yet to teach us anything significant about human vision. Short of a blind commitment to vivisection, there is absolutely no reason to think they will in the future, either. What does bear fruit is research with human subjects using techniques like positron emission tomography. This procedure can produce pictures of the human brain in action, both in health and sickness. Techniques like this can study stroke, coronary artery disease, epilepsy, Parkinson's disease, and various other brain disorders.[48] Here again, human-based research is

just better science.

Sadly to say, in physiology as in experimental psychology, many researchers have based their entire careers on animal experiments. As in the case of Claude Bernard, the father of vivisection, who showed little genuine concern for human suffering (or animal suffering, for that matter), the real motives for animal research seem to be "a mixture in varying proportions of scientific curiosity, desire to explore new fields, desire for recognition and fame, career ambition, a wish to spend time deeply absorbed in something of special interest."[49]

Claude Bernard himself described the physiologist this way: "he no longer hears the cry of animals, he no longer sees the blood that flows, he sees only his idea and perceives only organisms concealing problems which he intends to solve."[50] Magendie, his mentor, was described like this: "Magendie seemed . . . to substitute experiment for thought, thrusting his knife here and there to see what would come of it, and prodding in all directions in the hope of finding some new truth."[51]

The pressure to publish is undeniable. Careers are built on publications. "Experiments on animals are ideally suited to the task of generating papers."[52] There are so many species to choose from, and differences between species can be used to prove almost anything.

The laboratory rat has been described as "an organism which when injected, produces a paper."[53]

Again, the truth is harsh: animals suffer not to alleviate human suffering, but to advance human careers.

13. As in the case of diet, we have now run up against naked power.[54] The official story about animal research is simply an expression of that power. There is a power bloc deeply committed to animal research, come what may. They cannot admit to mistake in this. Otherwise, they will lose money. They will lose face. This power bloc involves governments, doctors, scientists, universities, the drug industry, the cosmetics industry, household products companies, factory farming agribusiness, contract testing laboratories, cage and equipment suppliers, and a worldwide network of laboratory-animal breeders and producers. (Animals are even supplied by zoos, wildlife parks, racetracks, and even by those who steal domestic pets.)[55]

So despite the fact the official story is simply wrong on every count, we should not expect it to die easily. In addition, at the very heart of that official story, and of that naked power which struggles to keep it alive, is a thought so primitive and so irrational that it can only be labeled superstition. It is Claude Bernard's doctrine that "we can save living beings from death only after

sacrificing others."[56]

We should well ask what "kind of medical system is it that demands a ritual sacrifice before healing the sick?"[57]

It would seem that animal sacrifice is still alive and well at the very center of modern civilization.

So just as in the case of diet, we ran into primitive superstition ("flesh is needed to build flesh"), here again we run into it ("the gods demand ritual sacrifice").

We can now clearly see that the official story is a myth. It is a myth to protect power. It only appears to be true because of that power which sustains it. In fact, it is almost entirely bluff. Animal experiments have not eradicated disease. They do not protect us from drug side-effects. They do not make major medical advances possible.

It is high time that we call that bluff. Moreover, as I have merely tried to sketch, calling that bluff will take the detailed work of taking apart the claims of the official story, case by case, exposing what it has to say about diabetes or brain research, and so on. In addition, as a point too often ignored, we must not permit the official story to get away with claiming that animal research has produced great benefits, without being forced to try to show that such benefits could not have just as well been produced by human-based research instead. As we have seen in the case of thalidomide, penicillin, polio,

and many others, animal research has not only not made the major discoveries, it has been a major hindrance to such advances. Galen will simply not stand comparison to Hipporcrates.

I also want to say that there is such a thing as "moral necessity being the mother of invention." Even if the alternatives to animal-based research did not yet exist, honoring the moral constraints on how we treat animals would force us to be creative and find new and better ways of doing science. Honoring those constraints is thus not some "drag" on science, but a positive spur to ever more fruitful discoveries.

To speak of moral necessity in this matter is also to point out that the moral story about animal research and the factual story do not pull apart. A dispute has recently arisen within the Animal Rights Movement between the "ethical abolitionists" and the "factual abolitionists," between those who base their case against animal research on moral considerations and those who base their case on factual considerations.[58] We have already seen that we have good reason to be suspicious of any stark contrast between facts and values. This should make us wary of taking sides in any such dispute as the current one. I have tried to present a case against animal research which does not take sides in this dispute. It is

a case which takes seriously the need to debunk the official story about animal research. Yet it is a case presented in the light of the radical vegan moral vision of friendship and harmony with all fellow creatures. Such a radical vegan position stresses that animal-based research is bad science without trying to reduce the issue to that claim.

"But what if animal-based research in fact produces some medical advances, and is the only way we could have obtained them?" Along with Plotinus and Gandhi, the vegan is prepared to reject the use of any discoveries produced in this way. However, the vegan is quick to point out that this challenge is in fact idle. Until shown otherwise, it is not a real possibility. It is like asking, "Would it be all right to eat meat if animals painlessly dropped dead at our feet after leading long, fulfilling lives, and their flesh was not high in protein, fat, cholesterol, and poisons?" There is no need to take on such questions. They are not about our world. It is sheer hubris to want to be able to handle all possible cases. That is the ambition of those who think we need moral theories. It should be enough if we learn to cope morally with our actual world, not all possible fantasy ones.

However, the vegan would find acceptable a recent proposal by Steve Sapontzis. Sapontzis suggests that the

same moral constraints should apply to using animals in research as apply to using human beings in research. This would mean the following:

1. Human and nonhuman research subjects must freely consent to take part in the experiments;

2. Where such consent is not possible, a guardian's consent would be needed in those cases where the experiments would be either innocuous to the research subjects or in their own best interests;

3. In cases of dire necessity where individual sacrifices are the only known way to help attain a desperately needed good (such as a vaccine for an epidemic), research requiring such sacrifices is justified just as long as it minimizes the sacrifice involved, and fairly distributes it among those likely to benefit from the research.[59]

Taking these guidelines seriously would mean the abolition of practically all animal research. Moreover, the vegan would see this proposal as part of a larger critique of scientific research in general. What needs to be rethought is not just the place of animals in research, or the place of human beings in research, but all the various aims and goals which scientific research has in our capitalist political economy. The vegan proposes that this rethinking be done in the light of the paradise vision, where what is presented is an image of human communities

with a quite different political economy, and a quite different way of relating to the natural world.

Seeing this, we must not let ourselves be subjected to emotional blackmail, to the claim of the official story that without animal sacrifice, many people will die, especially children. The official story tries to force this crisis case upon us: which life is more important--your child's or your dog's? But we should be able to resist crisis cases by now. "If pressed most people would choose their own child rather than someone they did not know but that would not justify experiments on strangers! Such hypothetical arguments are plainly absurd."[60] Make no mistake about this: "the real choice is not between dogs and children, it is between good science and bad science; between methods that directly relate to humans and those that do not. By its very nature vivisection is bad science: it tells us about animals, usually under artificial conditions, and not about people."[61]

Now the vegan vision is for total immediate abolition of animal research. The vegan solution is to boycott all products of that research. The vegan goes right to the heart of our culture, to our food and medicine, and faces up to the moral challenge which our long-standing practices present to us. The vegan insists that we must stop taking our food or our medicine while standing on the necks of

others, including innocent animals.

The vegan "speaks truth to power."[62] The vegan says no to animal sacrifice. How can we fail to do likewise?

"But isn't the vegan position just moral fanaticism?" Someone might worry because the vegan position is so extreme. Yet that can't be a good reason for choosing to ignore the moral challenge which it presents. Moral truth is often extreme. Rape is always wrong, not just sometimes. Child-molesting is always wrong, not just sometimes. If the vegan position is wrong, then the reason can't be simply that it is an absolutist position. Absolutist positions can often be the morally correct position.[63]

Someone might also worry that the vegan position is so radical. The vegan critique ramifies throughout modern technological culture. For all of us to become vegans would be a radical change indeed. Yet this can't be a good reason to ignore the vegan challenge either. John Woolman, the Quaker preacher, walked throughout New Jersey and Pennsylvania in the mid-1700's, arguing against slavery. That was a very radical thing to do. People thought him a crank and a frantic. Was Woolman wrong? Of course not. I suggest that we seriously consider the possibility that the vegans among us are the John Woolmans of today.

Moreover, self-righteousness should not be an issue.

To be self-righteous is a failure in the person, not in the moral position held. There is no reason to think that vegans are more prone to this failure that anyone else. But even if they are, that is irrelevant to whether the vegan moral position is correct or not. This question of animal research is a very difficult moral issue. There is every reason to believe that there are people of good mind and sound heart on both sides of this issue. The vegan can readily acknowledge this.

Compelling arguments are hard to come by in areas as dark as this one. The vegan can certainly acknowledge this too. Part of my point in presenting the vegan case against animal research was to display the fact that the details of the case must do all the work. Abstract theoretical claims from moral theories are of little avail. I would also suggest that we try not to see this issue of animal research in isolation. This is why I have tried to present it against the background of a moral vision, the paradise vision. This vision serves to highlight the details of the case in several ways. It reminds us of our long history of exploiting animals. It alerts us to just how deeply embedded animal research is in our political economy. It presents us with the possibility of coming to see and appreciate animals in ways independent of human interests and desires. It issues an appeal on behalf of

animals to what it takes to be our higher, nobler selves.

Each of us must ponder that appeal in our hearts, as well as the appeals of other moral visions, in order to determine where the moral high ground lies. My claim has been that the vegan stands on it.

Notes

[1]In this chapter, I follow closely Robert Sharpe, The Cruel Deception: The Use of Animals in Medical Research (Wellinborough, Eng.: Thorsons, 1988). I heartily acknowledge my debt to this excellent work. However, I do not mean to be offering a summary of Sharpe's book. As mentioned in Footnote One, Chapter Six, I am trying to display actual cases of moral reasoning in order to make the point that the details of a case are enough to decide it. The appeal to Sharpe is simply to make clear that the details mentioned in this chapter are not imagined, but are in the public arena, available from various sources. For corroborating material, see Richard D. Ryder, Victims of Science (New York: Centaur Books, 1983).

[2]Sharpe, p. 13.

[3]Michael Allen Fox, The Case for Animal Experimentation: An Evolutionary and Ethical Perspective (Berkeley: University of California Press, 1986), pp. 5-8; 22-30.

[4]For extended arguments against human moral superiority, see Paul W. Taylor, Respect for Nature: A Theory of Environmental Ethics (Princeton: Princeton University Press, 1986), pp. 129-156, and Richard Routley and Val Routley, "Human Chauvinism and Environmental Ethics," in Environmental Philosophy, ed. by Don Mannison, Michael McRobbie, and Richard Routley, Monograph Series No. 2 (Canberra: Australian National University, 1980), pp. 96-189.

[5]Sharpe, p. 14.

[6]Sharpe, p. 14.

[7]Sharpe, p. 15.

[8]Sharpe, pp. 144-146.

[9]Sharpe, p. 145.

[10]Sharpe, pp. 146-152.

[11]Sharpe, pp. 152-158.

[12]Sharpe, pp. 21-40; pp. 193-195.

[13]Sharpe, pp. 159-166.

[14]Sharpe, p. 160.

[15]Sharpe, p. 163.

[16]Sharpe, p. 166.

[17]Sharpe, pp. 15-17; pp. 71-115.

[18]Sharpe, p. 59.

[19]Sharpe, p. 64.

[20]Sharpe, p. 92.

[21]Sharpe, p. 72.

[22]Sharpe, p. 109.

[23]Sharpe, pp. 105-107.

[24]Sharpe, pp. 85-86.

[25]Sharpe, pp. 109-110.

[26]Sharpe, p. 114.

[27]Sharpe, pp. 122-139.

[28]Sharpe, pp. 126-127.

[29]Sharpe, p. 63.

[30]Sharpe, p. 63.

[31]Sharpe, p. 63.

[32]Sharpe, p. 131.

[33]Sharpe, p. 138.

[34]Sharpe, pp. 94-104; pp. 261-262.

[35]Sharpe, p. 100.

[36]Sharpe, pp. 220-235.

[37]Sharpe, pp. 227-229.

[38]Sharpe, pp. 201-217.

[39]Sharpe, p. 202.

[40]Sharpe, p. 211.

[41]Sharpe, p. 217.

[42]Sharpe, pp. 171-196.

[43]Sharpe, p. 181.

[44]There is a serious question about whether vaccines work at all. For the case against both vaccinations and blood transfusions, see Hannah Allen, Don't Get Stuck! The Case against Vaccinations and Injections (Tampa: Natural Hygiene Press, 1985).

[45]Sharpe, p. 188.

[46]Sharpe, p. 189.

[47]Sharpe, p. 174.

[48]Sharpe, pp. 175-176.

[49]Sharpe, p. 253.

[50]Sharpe, p. 164.

[51]Sharpe, p. 165.

[52]Sharpe, p. 253.

[53]Sharpe, p. 253.

[54]Sharpe, pp. 237-266.

[55]Sharpe, pp. 253-259.

[56]Sharpe, p. 250.

[57]Sharpe, p. 250.

[58]See "Comment," The Animals' Agenda, Vol. IX, No. 1 (January, 1989), pp. 39-41.

[59]Steve Sapontzis, Morals, Reason, and Animals (Philadelphia: Temple University Press, 1987), pp. 224-226.

[60]Sharpe, p. 250.

[61]Sharpe, p. 250.

[62]An old Quaker expression.

[63]For a more moderate, gradualist approach to abolishing animal research, see Bernard E. Rollin, Animal Rights and Human Morality (Buffalo, N.Y.: Prometheus Books, 1981), pp. 89-148.

CHAPTER VIII

THE MORAL THEORIST'S DILEMMA

We now have before us in some detail the case for a vegan diet and the case against animal research. What can we learn from these examples of real-life moral reasoning? Do they point to a genuine need for moral theory in our moral lives? Do they suggest that our moral reasoning is somehow radically incomplete until philosophers provide foundations for it?

On the contrary, these examples show quite the opposite. The examples are not incomplete. They stand perfectly well on their own. They reveal no gaps or holes. If there are holes, where are they? What are they? Surely it would be bizarre to suggest that the case made for a vegan diet is incomplete because we didn't answer questions about why anyone should care about one's health, or why anyone should care that animals suffer, or why anyone should care that the planet is sick.

The reason such a suggestion is bizarre is this: we didn't try to answer any questions like those suggested because such questions aren't genuine questions at all. They are the things that a vandal or a depressed person

might say. They are not questions so much as acts of defiance or cries for help. The depressed person requires holistic therapy to help restore health and regain meaning. The vandal needs "tough love," ongoing care that does not cater to the vandal's destructive whims. Both the depressed person and the vandal are for the moment "outside" ordinary moral reasoning. They need help to get back in. They need to get reconnected to themselves and to the people around them. What they don't need is philosophy.

Philosophy can't heal the depressed person or transform the vandal. Moral philosophers misconstrue their task. They think they must answer certain "ultimate" questions. Those "ultimate" questions are something else altogether. They are not questions, but gestures, the gestures of "outsiders," those who need to get back into the human community. Moral philosophy is an activity of those fully within the human community. I simply mean that ordinary moral reasoning presupposes a shared background of agreement. Moral reasons are reasons not just for anyone. In order for such reasons to serve as reasons for action, human beings must more or less share a range of natural reactions. There must be natural agreement across a range of cases as to what counts as responding to someone's pain, what counts as being fair, what counts as excessive anger,

and so on. Without such natural agreement there would be no such thing as the moral life, just as without such widespread natural agreement there would be no such thing as counting, or following a rule, or human language itself. Outsiders are those who fail to share these natural reactions, and are thus unable to enter into these activities. Something other than moral philosophy is needed to help the outsiders get back in. Moral philosophers should not busy themselves with the bogus task of devising "answers" for outsiders.

Hence, the case for a vegan diet and the case against animal research stand complete without answering outsiders. They should not try to. Moreover, these examples of real-life moral reasoning show clearly that actual moral reasoning gets on well without the benefit of moral theory. The moral cases presented make no appeal to either technical notions or general principles. There is no retreat into an abstract background world of ontology. Human beings are not labeled "moral agents" or "moral subjects." Neither are animals. Notions like "intrinsic value" or "inherent worth" are not introduced. No effort is made to make everything turn on the issue of suffering or on the issue of having rights. Moreover, no effort is made to devise one single answer in advance to handle every conceivable "crisis case."

Especially relevant to the issue of the need for theory in nature ethics is this: the moral reasoning presented in the case for a vegan diet and in the case against vivisection does not attempt to establish any sort of bald, general claims like "animals have moral standing" or "animals are just as important morally as human beings." Since such claims are not made, there is no need to retreat into ontology in order to defend them.

Now it's not as if one is being invited to think that such claims aren't true. Rather, since such claims need not appear in our ordinary moral reasoning, one should be led to doubt whether they mean anything when made in general, out of the blue, independent of any particular moral issue. In other words, if confronted with a challenge such as "Well, are animals just as important as human beings, or aren't they?", the best thing one can do is not try to take it on directly, and then find oneself being forced to appeal to notions such as being sentient (Peter Singer), or being subject-of-a-life (Tom Regan), or having inherent worth (Paul Taylor). Rather, one should try to get the discussion off this abstract level, and onto real-life cases. Should we save the spotted owl from the timber industry? Should we save the rhinoceros from poachers? Should we save dolphins from tuna fishermen? Then, if the challenge becomes, "But why should I care

about saving the spotted owl?", we can now begin to talk fruitfully about the ecology of old-growth forests and the place of spotted owls in them, and we can now ask in turn, "Have you actually seen a spotted owl lately? Do you know what one is really like?" Moreover, just as it was appropriate to challenge powerful vested interests in the case of diet and animal research, so here we can begin to question whether the current practices of the timber companies actually benefit anyone other than themselves.

What emerges in real-life cases is that what is good for animals is also good for people, and vice versa. We can now say that animals count for as much as people, and we can say it without any "hard edge" to it; that is, we can say it simply as a summary of our considered judgments across an entire range of moral issues. Moreover, those considered judgments have been made out of our shared moral sensibilities, out of a shared sense of what is fair, what is cruel, what is greedy, what is generous, and so on. Thus, I want to say that the truth that animals count for as much as people is not some moral "super-fact," requiring special defense. Rather, it should be seen as plain, flat, and commonplace, a mere synopsis of results of our ordinary moral reasoning.

I want to say the same thing about moral vision. One does not support a moral vision by retreating into ontology

in search of "super-arguments." I did not attempt any such thing in laying out the paradise vision. Rather, one simply lays it open to testing by real-life cases at every turn. Thus, I would claim that the cases made for a vegan diet and against animal research help make sense of, and lend support to, the radical-green and deep-green features of the paradise vision. Assessing case after case like this is what will enable us in the end to say of a particular moral vision that, yes, this is the best picture we have of a deeply satisfying human life. Ontology cannot help us here. Real-life examples do.

What <u>does</u> do the work in these examples? I want simply to say--the details. The details are enough. The details do all the work. As I have tried to show with the examples, getting right into the moral issue at hand lets us see clearly that we don't actually need what moral philosophers think we do. The details carry us right along.

However, there is danger in saying this. The claim that it's all in the details is a truth utterly plain and trivial, a platitude, a truism. Remarks about details are meant to carry no weight. They support no theory. They are not "deep." They are right on the surface, in full view, superficial.

It would be better to say that talk of details is a

way to reject the question about what does the work. It's a way of saying that it is a bad question. One could respond to it by saying that nothing does the work in the examples. There's just nothing of interest to say.

It's important to stress this. Otherwise, one might be tempted to think I am offering some sort of counter-theory or "anti-theory." One might think I am serving up some alternative account of our moral lives which stands on all fours as a competitor with the standard theories. However, I am doing no such thing. I am not dishing out the details as "the answer," instead of theory, as if talk of details were in the same ballpark as the standard moral theories.

I mean to be rejecting the need for any sort of "account" of our moral lives at all. The details don't "succeed" where moral theories fail. There is simply no coherent task here to be performed.

On my view, the same holds true of any talk of moral vision or of the virtues. One might point out that the moral cases I have presented depend on the moral vision I sketched, and that they also depend on one's having certain virtues, character, and moral sensibility. Now that's quite true. The moral cases I present do involve both moral vision and the virtues. I readily admit it. However, I deny that admitting it comes to anything.

To speak of moral vision or the virtues is simply to point to obvious features of our moral lives. These features lie on a par with many others. They are not somehow "deeper" or more explanatory. Neither are they more problematic, as if they stood in need of deeper explanation. Vision and virtue are just some of the things we need in order to make good judgments in moral matters.

"But have we got the right moral vision or the right virtues?" Here again, I would say that a certain "loss of moral nerve" is entirely out of place. There is no general once-and-for-all way to answer such questions. Certainly pulling back into the background world of ontology hasn't done it, and there is no reason to think that it will.

This is not to say that specific questions about particular moral visions or virtues are out of place. For example, it is appropriate to raise questions about nonviolence as a central aspect of the paradise vision. We do need to learn what nonviolence means for women's reproductive rights, or for the rights of Third World peoples to struggle against oppression. Feminists have raised legitimate questions about virtues like humility or selflessness. Are these really virtues, or are they merely ways to keep women in check? These are important questions. They cannot be ignored. However, they don't need

moral theories to answer them. They again require that careful attention to detail which I tried to display in the two moral cases given.

"But won't all this stress on ordinary moral reasoning and the rejection of moral theory land us in conservative moral and political positions?" That a funny question to ask just after I've presented the case for two radical moral positions. Whether one is radical or not is independent of whether one has a moral theory or not. Moreover, the two moral cases presented should make clear that our ordinary ways of going on have all the resources necessary for us to be self-critical, to be able to examine and compare moral visions, to question particular virtues, to reconsider our considered judgments, to be able to learn appropriate remorse, outrage, scorn, sarcasm, modesty, and so on. There is no hint here that ordinary moral reasoning can't be an intense scene of moral questioning, change, and growth.

Now I think it fair to say that this attempt to force moral theory upon us has failed. We should be able to see moral theories for what they are--idle extra steps, eternal displacement activity which keeps us from the real work of taking on moral issues directly. That this is so can be seen in what one might call "the moral theorist's dilemma." The moral theorist faces this challenge:

1. The details are enough, and a moral theory is not needed;

2. The details are not enough, but a moral theory won't help either.

The first horn of the dilemma is illustrated by the examples I've given. The details of the case carry the day. At best, a moral theory is mere "embroidery," just a synopsis of the moral reasoning used. At worst, a moral theory could mislead by masking off some of the important features of the case. (The issues of diet and animal testing are more than just issues about pain or rights.)

The second horn of the dilemma may not be as obvious. What I mean is this: if the details of the case don't suffice, and the case is a genuine moral quandary, then having a moral theory won't settle matters for us either. There are two reasons for this. In the first case, despite ambitions to the contrary, moral theories are not "computationally effective." They are not such as to guarantee answers to any or every real-life situation presented to them. Moral theories are notorious for being "bendable" to each theorist's considered judgments. For example, Peter Singer and R. G. Frey, two utilitarians, differ over vegetarianism. It is unrealistic to suppose that any particular moral theory will have anything fixed to say when faced with a genuine moral quandary. In the second

case, suppose a moral theory does have something definite to say to a particular moral quandary. Why should we trust the answer? If the case is so difficult that careful pondering of the details doesn't settle matters, then won't the doubt that exists about the case also apply to whatever solution is presented by the theory? Supposedly a careful pondering of the details would have considered that solution, among others, and not been convinced by it. Why would being underwritten by a moral theory change matters?

"But suppose the moral theory has independent confirmation from elsewhere." Someone is sure to say this, of course, but let's be realistic. No moral theory enjoys anything like the status of what one might call our basic "moral truisms," platitudes like: don't kill; don't torture; don't rape; don't steal; don't cheat; don't lie; and so on. We are more certain of these than of any moral theory. So if the moral truisms don't decide matters, and we do have a genuine quandary on our hands, then no theory will either. (Again, I hasten to add a word of caution. Talk of truisms comes to no more than talk of the details does. They are simply ways of talking about our moral reasoning while rejecting the need for theory. There is no theory of moral truisms, or of how we know them, waiting in the wings.)

"But what if the situation is like this? In a moral

quandary, two moral truisms are pitted against one another, and balance one another out. Weighing in with the results of a moral theory on the side of one of the moral truisms will tip the scales in its favor." Frankly, this is difficult to consider because the situation is so abstractly presented. Moreover, the situation is assumed to be simply additive: truism A plus moral theory "weighs more" than truism B, where truisms A and B both weigh the same. Why should we assume this? Not all situations are like this. The infinite sequence 1,3,5,. . . is the "same size" as the sequence 2,4,6,. . . Adding a finite sequence to the first does not make it "bigger." Even adding the second sequence to the first does not make the resulting sequence 1,2,3,4,5,6,. . . any bigger. I suspect that we don't know how to apply mathematical models to moral quandaries. That's probably because such models are out of place there. We would do better sticking to actual quandaries.

What do we find when we do that? Not a single case where a moral theory settles matters for us. To be convinced, each of us should do an exhaustive check of cases for ourselves. I'll just mention the abortion quandary because I think it typical. Neither a rights-based theory nor an interests-based theory provides automatic answers. If one thinks they do, that's probably because one has already made up one's mind, and is simply using the moral

theory to encapsulate one's actual reasoning. If one is genuinely in doubt in a particular situation, then what the theory says will come in for doubt too. One will see that the theory itself is open to multiple readings, and can be used to support almost any course of action.

Consider the situation of a 40-year-old woman who is a doctor with several children, and is about to embark on a service project in Peru. She becomes pregnant from being raped. She has been a long-time believer in nonviolence. Yet this tragedy in her life makes her pause. She begins to ponder deeply what she should do, and what her adherence to nonviolence really commits her to. It seems like a cruel joke to suggest that a moral theory could settle matters for her.

I think we've come to the end of the line. We can leave the moral theorist's dilemma to those who still feel the need for theory. I would describe our situation this way. We seem to have a fatal tendency to oversimplify. We go for the "fast-food" approach to everything. We eat refined, concentrated, "simplified" foods, instead of foods in their natural packaging. We "mainline" sugar, instead of taking it in fresh fruits with all their fiber and nutrients. We mainline starch, eating grains stripped of their bran and germ. We mainline protein by eating animal products, thus taking too much protein, along with unwanted

fat, cholesterol, and poison. We take vitamin and mineral supplements, instead of eating fresh fruits and vegetables. Thus, we oversimplify our own bodies.

We also oversimplify our living spaces, and our gardens and farms, creating unnatural "vacuums" which so-called "pests" and "weeds" try to fill. We even take the "quick-fix" approach to them. We try to kill them.

We also take the fast-food approach to medical research, thinking that by cutting up animals, we can learn to escape the consequences of our bad habits.

Lastly, I would suggest that we even take the "fast-food approach to our moral lives. How much easier to retreat to the world of moral theory, rather than sticking to all the details of actual cases. We would rather talk about "intrinsic value," rather than how and why Burger King should be shut down.

Isn't it high time that we give up on fast foods?

CHAPTER IX

THE MORAL TASKS AHEAD

Much remains to be done, of course. There is always more to be said. I have only tried to sketch the paradise vision, the radical vegan moral vision, and to show what two of the most important things in human life, food and medicine, look like in the light of that vision. I think of my sketch as an invitation to other voices to join the work of filling out the paradise vision. I will indicate here some of the areas which await filling out, and how I think that filling out might go.

All of the feminist features of the vision await full display. Feminist criticisms are being prepared for all the major aspects of our culture--how we do philosophy and theology, how we think about prayer and spirituality, how we handle power and authority, how we treat sex and raise our children, how we use new technology, especially bio-technology, and how we live with animals and nature. I would like what I have said about diet and vivisection to be in accord with what our sisters work out in these areas. In other words, I see the vegan response to diet and vivisection simply as the feminist response.

Much more needs to be said about "openness to mystery," what might be called the "possibility of prayer and spirituality." It is safe to say that the paradise vision involves radical criticism of all existing faith traditions, certainly for feminist reasons, but also in some cases because of lingering superstition and outright dependence upon magic, and in others because of a lack of genuine concern for Third World poverty and the plight of animals and nature. Openness to mystery does not mean escapism or narcissism. It means death to our narrow nervous egos, and birth to deep trust, hope, compassion for, and solidarity with, all of the immense suffering in the world. Such moral growth is central to coming to hold and live out the paradise vision. It is also central to coming to a satisfying conception of that mystery which some call God.

The paradise vision is a vision of human beings living in peace and friendship with the rest of the natural world. One could challenge this vision directly.[1] Why should we befriend nature? The natural world is an immensely dangerous and immoral place. Natural processes show no moral respect. So why should we respect them? This "nature, red in tooth and claw" challenge deserves an answer.

The nonviolent features of the vision also require

support. Work needs to be done to display the possibilities of nonviolent self-defense, and of nonviolent community defense. Nonviolence means rejecting the warfare state with all its armies and weapons. Nonviolence also means a radical reshaping of courts of law, police, and prisons. This reshaping will go hand in hand with the growth of feminist and anarchist forms of political power-sharing and decision-making, and with the appearance of anti-capitalist, radical-green economies. The issue of "law and order" will look much different in a world where social justice is the rule, rather than the exception.

The following questions strike me as especially pressing for a nonviolent vision: is having an abortion compatible with being nonviolent? If so, when, and why? If Third World peoples cannot take up arms against their oppressors, what course is left open to them?

There are also questions about proper nonviolent tactics for the moral and political struggle ahead. The Sea Shepherds have rammed whaling ships at sea, sunk a pirate whaling vessel, and blown up a whaling industry processing plant in Iceland. Earth First! has spiked trees, cut down billboards, and disabled bulldozers in an effort to stop the timber industry. Animal liberation groups have broken into testing labs, destroyed equipment, confiscated documents, and taken the animals being held

there. Are such actions in the spirit of nonviolence?

Now a certain public outcry against such "guerrilla" activities seems to me off the mark. People cry, "You are destroying property. You can't do that. That's terrorism." My reaction to that is this: if there is a central evil in this culture, it might be that we value property over people. People care more about profit margins than they do about the homeless and starving. So one thing a nonviolent witness can do is say no to that cockeyed view of the world.

This should mean that nonviolence need not "honor" property in the way that it honors people. However, since property is so often seen as an extension of the person, an attack on property will be considered an attack on the person. The nonviolent do need to take this seriously. Hence, in most cases, nonviolent action should not involve damaging the property of the oppressor.

Nonviolent witness must be crystal clear. It must have a chance of touching hearts and minds. It must not be merely power politics in disguise. Nonviolent action comes out of a spirit of meekness, peace, and good humor. It does not come from self-righteous rage or machismo. Considerations such as these seem to tell against much of the "monkey wrenching" carried out by groups like the Sea Shepherds, Earth First!, and the Animal Liberation Front.

Moreover, nonviolent witness cannot be clandestine and anonymous. We must openly take responsibility for our witness. As Tom Regan advises, we must be prepared to give ourselves up.[2] If laws are broken in the course of a nonviolent witness, we must show ourselves willing to suffer the consequences of our actions. Only in this way can we hope to make a moral appeal to those whom we consider oppressors.

Finally, the radical-green and deep-green features of the paradise vision await elaboration. We have seen part of what those features come to in the vegan rejection of meat and vivisection. Yet the vegan vision extends much further. The vegan does not only reject the use of animals as food or research tools. The vegan says no to the use of animals altogether. In the vegan vision, animals are set free, period. The vegan vision is one of free, equal human beings living in peace with wild animals and wild nature.

For the vegan, not only will factory farms and animal labs go. So will traditional farms, the circus, zoos, wildlife parks, aquariums and marinelands, all hunting, trapping, and fishing, whether commercial or recreational, game reserves managed for those purposes, the fur trade, poaching, sports using animals, the training of animals for whatever purpose, and even the pet trade and the domesticating of animals as pets. Animals are to go free! There

is simply no good reason why we should eat them, drug them, torture them, wear them on our bodies, toy with them, or keep them around as substitute children.

In order to set all animals free, there will have to be a gradual, but steady, process of "de-domestication," a returning of those domesticated species now totally dependent upon us to a condition of being able to live on their own in the wild. Such a return of domesticated species to the wild will also involve taking care that the ecosystems into which these species are reintroduced are not disrupted in turn.

The vegan looks toward a world in which we can appreciate and celebrate animals just as they come "fresh from the lap of God," [3] free and wild and innocent, untouched by human purpose or desire. We are to learn a most radical reverence toward all of creation. We are to learn not to touch, mar, disfigure, or destroy at every turn. We must pass beyond our worldwide vandalism, and become meek and gentle, and simply "let be." Nothing short of this will save our planet. "Blessed are the meek, for they shall inherit the earth."

Such radical vegan meekness sets itself firmly against the growth of capital and technology. Such growth has brought us to the point of global destruction. The vegan recognizes that capital and technology expand by generating

false and superfluous needs. The vegan accepts natural limits, and rejects the false and superfluous. For the vegan, moral virtue involves recognizing when "enough is enough." This means that a genuinely vegan economy will set severe limits to how capital is invested, and to what kinds of tools are used. This will mean a return of human economic life to one of balance, simplicity, and peace. It will mean that we no longer beat up on animals just in order to make a "fast buck." It means that "biotech" will have to go. What right have we to turn animals into machines just to satisfy some economic dream of modern agribusiness? At this point, vegan and feminist stand as one in opposing biotech, for such technology poses a threat not just to animals, but to women as well. Reproductive and genetic engineering, if unchecked, will serve only to wrest the very power to bear children away from women, treat it as a machine, and turn it into yet another commodity for capital gain.[4] Moreover, both vegan and feminist strive to expose the Faustian dream of modern efforts at so-called "artificial intelligence." Here the secret wish is to one day create machines which can completely replace "poor, flesh and blood" human beings. Yet, what we have is the playing out of a very old story--men striving to surpass women. Moreover, the ending is always the same--women create babies, men build robots;

women shed blood in birth, men spill blood in death.[5] Vegan and feminist have the courage to say no to this ancient pattern. A vegan and feminist economy stops the "rat race," treats tools as servants, not as masters, and lets the animals go in peace.

"But what about plants?" The complaint is often brought forth that the vegan makes a radical distinction between plants and animals which cannot be sustained. This isn't so. Radical vegan reverence extends to all of creation, including trees and plants. It is hard not to suspect that the complaint is really made in bad faith, merely as a way to escape the vegan's arguments against meat-eating. There really is no problem about why we can eat plants, but not animals. As Alan Watts quipped, "Cows scream louder than carrots." I trust we can take in that remark without jumping to say that everything just boils down to the issue of pain. The ways animals differ from plants are rich and varied. The ways we relate to animals are rich and varied. The ways we relate to plants are rich and varied. The details of all these differences resist simple encapsulation, but it is the details which make it clear why factory farms are a serious moral problem, but vegan gardens should not be.

We are certainly able to use plants for food, medicine, clothing, and for a limited number of other

purposes, including aesthetic ones. However, even here, radical vegan reverence sets limits. We are to use only what we need, and leave the rest alone. Vegan gardens, for example, display that reverence and meekness. In such gardens, soil creatures are not destroyed, but thrive, and by doing so, replenish the soil. So-called "weeds" and "pests" are even allowed their place in the sun, held within bounds by natural predator/prey relationships. We are not to go to war--even against weeds and pests! Vegan gardens "let be." There is minimal grooming. Wild beauty shines forth, not the "rational anemia" of English or Japanese gardens.

Radical vegan reverence leads us on to protect all species of plants and trees, especially the rare and endangered ones. We are not to cut the few remaining unprotected old-growth Douglas firs and redwoods in the Pacific Northwest for the sake of short-term profit. We are not to cut or burn the remaining Amazon rainforests so people can eat beef in Toledo or Tokyo. We are not to alter the tree cover on the slopes of the Rocky Mountains so people can have water for their lawns in Denver or Phoenix.

For the vegan, there is no question of having to choose between animals and trees. That is a false dichotomy. Vegan moral and political struggle is holistic.

Animal advocates are not pitted against old growth advocates or rainforest advocates. Each has taken on an indispensable part of one great overall struggle. Each is pitted against the same enemy--the world of patriarchy, capital, and empire. Radical vegan moral vision should make clear the holism of the moral struggle to each of us in it.

Finally, radical vegan reverence extends care not just to living creatures, but also to the ecosystems and landscapes which sustain them. Reverence even extends to landscapes which support no life. They are also a part of creation. This has a perhaps surprising consequence: the vegan rejects space exploration, at least at this stage in our moral development. Radical vegan reverence has no limits. It extends to the moon and to Mars and beyond. All creation is embraced. Thus the vegan stands against the right of warfare states to stripmine the moon or sow life on Mars. The natural monuments and landscapes beyond this planet should not be vandalized. We have no right to move on after raping this planet to rape others. The vegan sees through all the official hype about space travel. Space travel is not about some innocent "spirit of adventure." It is all about the expansion of military power and the growth of capital. It is all about the dream of an elite few being able to survive the death of the

planet, living in their own high-tech "bubble world" after cutting free from dying Mother Earth.[6]

The vegan stands firmly against all of this. We are not to go into space until we have healed this planet. Otherwise, we will be simply spreading our disease (just as the European explorers did in the Americas). For those who seek "adventure," saving the rainforests, for example, should be adventure enough for anyone. In this regard, Frederico Lorca once said:

> The day that hunger is eradicated from the earth there will be the greatest spiritual explosion the world has ever known. Humanity cannot imagine the joy that will burst into the world on the day of that great revolution.[7]

Vegans set their hearts on that joy. Filled with it, we can then go into space.

Faced with an entire planet in danger, the choice that lies before us should be stunningly clear: are we to be vegans, or will we continue to be vandals?

Let me close with a little story which I hope can one day be added to Genesis:

On the eighth day of creation, human beings fell into power and greed and war, and came to vandalize their entire planet, the once beautiful blue-green Earth. Then, with the Earth at the very point of death, human beings at long last came to hear the cry of God in all the misery and suffering of the world. They relented. They felt grief

and remorse, and began to repent. They changed their food and their clothing and everything about them. They shared their food and all that they had. They cleaned up their waste. They began to live light on the land. They set all animals free. They used plants only when necessary. They began to plant trees.

At the end of the day, the Earth had healed. Trees, birds, and people all breathed as one in deep peace and harmony.

And everyone felt the joy.

And God again looked at her creation, and saw that it was very, very good.

Notes

[1]George C. Williams, "Huxley's Evolution and Ethics in Sociobiological Perspective," Zygon, Vol. 23, No. 4 (December, 1988), pp. 383-407, and John B. Cobb, Jr., "Befriending an Amoral Nature," Zygon, Vol. 23, No. 4 (December, 1988), pp. 431-436.

[2]"Regan on Tactics," Ahimsa, Vol. 30, No. 1 (January/March, 1989), p. 8.

[3]John Robbins, Diet for a New America (Walpole, N. H.: Stillpoint, 1987), p. 44.

[4]Gena Corea, The Mother Machine: Reproductive Technologies from Artificial Insemination to Artificial Wombs (New York: Harper & Row, 1985).

[5]Monica Sjoo and Barbara Mor, The Great Cosmic Mother: Rediscovering the Religion of the Earth (New York: Harper & Row, 1987), p. 193.

[6]Bill Devall and George Sessions, Deep Ecology: Living as if Nature Mattered (Layton, Ut.: Gibbs M. Smith, 1985), p. 141.

[7]Robbins, p. 354.

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