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ORDERING ENVIRONMENTALISM

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ORDERING ENVIRONMENTALISM¹

I think the best description of our time, call it analytical, objective, or both, was made by Robert Musil in his novel *The Man Without Qualities*, of which the first part was published in 1930. Particularly the first chapter draws a picture of what we still are facing, more than sixty years after Musil wrote it.

As in every good conversation, Musil starts with a description of the weather. He tells us about the isotherms and the isotheres, about the air pressure, the aperiodical changes of the temperature, the hydrodensity of the air, and about many important phenomena from the astronomical yearbook. Or to put it simply, as Musil also does: it was a beautiful day of August in 1913.

The weather is an aspect of nature, an important aspect. How can we speak about the weather? How can we speak about nature? In the complex, but precise language of science; or with plain and simple ordinary words? Musil ironizes around both ways; to develop language into a more precise form doesn't make more sense than going back to the way we have been speaking about nature all the time. Musil shows us a time that has problems in speaking about the weather. And about nature.

Perhaps even better than the showing of our time is Musil's analysis of technology in the same chapter. We are told that a woman and a man walk the streets of Vienna under the conditions described just before. They suddenly interrupt their walk; something has happened that draws their attention. Musil states: something has left its ordered place in the order. A big lorry stands on the side of the street. In front of it, there is a crowd of people. There is a hole in the middle of the crowd, and in this hole lays a man straight out. Obviously hit by the lorry, he looks dead, not moving a single limb. Some of the people around him kneel down, trying to do something. Actually, they do nothing except waiting for the necessary

¹ This article is the lecture at the defense of my thesis *Ordering Nature. Environmentalism as a cultural phenomenon* at Roskilde University Centre 25 February 1994. Only the part containing the analysis of the books I was asked to give a comment on was lectured in detail. Since then, some modest changes has been made in the text, among these changes correction of the language. Bjørn Olav Listog has helped me doing that; I hereby thank him. He is not to blame for the "bad" english in the text; it is not so easy to get perfect a material that was so "bad" (with respect to the language of course) in its original form.

expertise to arrive. The woman we heard about feels something we maybe could call pity, better expressed in German: *Mitleid*, that is: suffering together with. The man says: "These lorries have a too long braking distance". The woman doesn't know what braking distance means, but feels much easier, knowing that the problem can be named, that the accident can become a technical problem. Musil says: "brought in order". The problem is brought in order technically and the woman released from her pity.

Soon the ambulance arrives with personnel in uniforms who carry the man into the inner of the ambulance. The audience around can follow this movement with their eyes, and they see that inside the wagon everything is clean and in order, like in a hospital operation room. The whole event develops so smoothly that it looks like it is occurring according to some kind of natural law. The man states: "According to American statistics, 190.000 persons are killed in car accidents each year and 450.000 hurt."

Problems arise when we do not know how to speak or think about the weather, about nature. Even larger problems arise when we do not know how to handle experiences and how to act. Musil shows us a world that becomes increasingly well ordered. It has tried to overcome all problems by ordering them, by means of technology, science, economy, institutions, organisations, etc., that is by well ordered systems. The modern world is characterised by a will to order: through order shall the world be made understandable and handable.

In spite of this order, unordered appears. The meteorological system becomes so complex that it is not handable by those that earlier could give forecast on the base of signs given directly by nature to them. The well structured technology jumps out of order: the lorry hits a man. Even the order gives a feeling that is not in order: the order inside the hospital wagon gives the lady an uneasy feeling; although the technical solution helps her with her pity, she is not completely pleased.

It is a paradoxical situation: more order brings unordered and unordered must be fought with unordered. How can this paradox be handled? How to handle order? Return to the good old times which in spite of its unordered was ordered? Or strive for the prosperous future that will bring a better order with the help of ordering systems like technology? As in the case of the weather, Musil ironizes about both solutions. He doesn't see any solution in those opposing solutions. Instead he proposes a non-solution, the hero or anti-hero of the novel, Ulrich, the man without qualities, a man unable to generate order as well as unordered.

Musil's solution solves, at least at first glance, a question I had problems of finding an answer to in my thesis on environmentalism: how to break with the will to order that has ordered our nature as well as our technology? My claim was that environmentalists were not able to make such a break. They were ordering the unordered nature as industry had been doing it, only releasing larger groups from their uneasy feelings than what industry had done before. Nature that puzzled the early romanticists and environmentalists became a structure of chemical and

biological processes for the modern environmentalists, a well ordered system. But still we are not completely pleased: first we do not know still if we are able to solve the environmental crisis and second, if we are, couldn't it be something else that would react in the same way as nature has reacted toward our previous ordering of it? Musil's man without qualities escapes this problem by not being able to give a solution; hence he oppose the environmentalists that want a return to nature, back to the good old days, and also those that search for environmental friendly technologies that in the future will, hopefully, solve all environmental problems.

However, with the environmental crisis as one sign of the unordered of the modern world, it is difficult to be an Ulrich: the problems demand solutions. But which? Is there a path that can cope with what Musil described, that more order in the end brings unordered? Is it possible to order nature or technology in such a way that it doesn't create unordered? Musil's solution was made more than sixty years ago; has the time changed so that we can find someone or something that can overcome the passivism of Ulrich?

In the recent years, several books have been published that deals with the environmental situation. By recently I mean since 1990. In my thesis I *ordered* the environmental movement into three periods of ten years each: the sixties, the seventies and the eighties. These periods I used to describe what I called the modern environmental concern. Environmental concern existed before, but in the sixties a movement started that must be characterised as special. This movement changed its direction dramatically as it moved forward, finding its specific characteristics in each decade. It seemed like this movement with its shift of direction followed almost a natural law, one decade following logically after the other. As the eighties ended, a new direction of the nineties had to be expected. Having no empirical material for the nineties, I could only speculate on what we could face; my natural law was after all not so precise that I could predict. Now we have some material and I will here consider it.

My thesis mainly treated Germany and Norway. Although some original environmental ideas rose in these countries, the main input for the environmental concern came from abroad and particularly from the United States. When people laughed at Willy Brandt in Germany in the early sixties because he spoke about the blue sky and clean rivers, these issues were indeed too serious to laugh about in the States. Maybe has the US kept it's role as a supplier of environmental ideas? Many books have been published this decade and I will examine four of these, as I have been asked to do.

If the States represent one end of the scale of producers of environmental ideas and concerns, France is to be found at the other side. In general, environmental concern has been low in France and very few books has been published that have reached an international audience. This in strong contrast to the role French philosophy has played over this period, moving from existentialism

through structuralism, post-structuralism and up to post-modernism. The most important of these contributions have been of a very profound character, questioning ontological positions and analysing man's role in the world. But not man's position toward nature. This has now changed: environmental issues have been considered by many of the most prominent philosophers, and environmentalism has become an element in the highly selective French culture. Having been such an underling in the environmental debate, some of the things that now arising in France give a new dimension to the debate.

But let us take three American books first. They are Berry Commoner's *Making Peace with the Planet* from 1990, (Pantheon Books, New York), Lynton Keith Caldwell's *Between Two Worlds. Science the environmental movement and policy choice* from 1990 (Cambridge University Press) and Albert Gore's *Earth in the Balance. Ecology and the Human Spirit* from 1992 (Houghton Mifflin, New York).

Although the books are rather new, some of the authors have been in the game for a long time. With respect to the environmental debate, Commoner is perhaps the most well known among these three. His early books like *Science and Survival* from 1966 and *The Closing Circle* from 1971 were widely read and influential on the environmental debate, also in Europe. Only Rachel Carson's *Silent Spring*, perhaps, had a stronger impact on environmentalism in this early phase. We have hence a book from a person well known with the environmental debate and who has played a major role himself.²

Caldwell has also been a long time runner in the environmental debate. Already in 1970 he published *Environmentalism: A Challenge to Modern Society*. The title stresses the role Caldwell then gave to environmentalism and since then he has continued his concern with the issue. But unlike Commoner, Caldwell has never become obligatory reading among environmentalists, at least not in continental Europe. While Commoner's books have come in several editions in their translations to German and Norwegian, Caldwell has not been translated.

This fact is not without interest; it shows much of the orientation among environmentalists and also what the environmental concern is about. Barry Commoner as a biologist has few problems of getting into the debate. When the environmental concern grew during the sixties, biologist were perhaps the most influential group; they knew what nature was. When the environmental movement turned more political during the seventies, the debate often turned around economics and very fundamental questions about how to found a society. The politics as such were lacking. Not so strange then that Caldwell as a political scientist has received little notice among environmentalists; his approach has not had much relation to the way environmentalists saw nature.

² Many of the articles in *Making Peace with the Planet* are not new; they have been published in well known journals and magazines like *The New Yorker* and *Harper's Magazine*. Still there is a strong consistency in the book.

From this we may draw some characteristics of the early environmental concern: their ecology was a concept where both man and animal should find their place in a harmonic interrelation. In a fundamental way, there was no difference between man and animal in ecology. This view may be and has been related to premodern understanding of nature like the Aristotelian biology and its organic approach. But it does not consider one of the most important statements of Aristotle, namely that man is a political animal and that politics is something other than interrelation in an organic sense.

The neglect of man as a political animal may be criticised in two ways: either ecology has treated politics as irrelevant for ecological questions, or they have been working with a separation between nature and culture where ecology only concerns the natural side. And as we shall see: both positions are criticised and this is perhaps one of the most important shift in the environmental debate in the nineties. Caldwell doesn't make such a criticism but he clearly takes part in a move where the earlier positions of ecologists have to be modified.

Maybe one important sign for such a change is that a professional politician like Albert Gore presents us with a book about the environmental situation. His book was published when Gore was a senator. Now he is the vice-president and better known throughout the world than Commoner will ever be. Gore did not take up environmentalism during an election campaign; he were concerned before he became the vice-president, even before he himself tried to get nominated for the presidential election in 1988. Gore represents a new generation that has grown up with an environmental concerns. Gore tells us how his mother stressed the importance of Rachel Carson's book in the early sixties, when Gore still had not finished school. Being one generation younger than Commoner and Caldwell, Gore represents something new in the environmental debate.

Whatever fundamentally new the books of Caldwell, Commoner and Gore may present us with, I will use quite traditional labels on them. I will stamp Commoner policy, Caldwell science and Gore faith. These labels does not seem fitting, knowing the background of those labelled: the biologist dealing with policy, the political scientist with natural science and the politician with faith. This misfit is to be regarded positively; if there is consensus among environmentalists on one thing, it is that the environmental problems can not be solved by one discipline. The problem is manifold and needs a broad approach; focusing only on one aspect will create problems in other fields. The question is: how to order such a broad approach?

The environmentalists of the sixties argued for the need of a better understanding of nature. Primarily this understanding was to be given by the natural sciences, in particular biology and its discipline ecology. This was also Commoner's position in his earliest books. In *Science and Survival* he showed how science was misused in modern society; it had become subordinated to non-scientific projects and this subordination made science so specialised that a broader understanding like that of

ecology became impossible.

Commoner saw two problems: 1) science had become narrowly oriented and 2) it was under influence of political purposes. He tried to solve both problems with one solution: by preventing science from political steering, science could develop to become much broader than was actually the case. And not only that: science as a free and independent activity could present humanity with objective knowledge that could guide human society in a way that was not environmentally destructive (p. 121 in the Norwegian translation: *Mens det enda er tid*, Oslo, 1969). Commoner, however, also admitted that science could not provide all the guidelines for human life and activity. There were moral positions that surpassed what science could reach. But value choices could only be made if those taking them were fully informed. The role of science would hence be to inform the public so that the necessary democratic decisions could be taken.

His 1971-book, *The Closing Circle*, stressed how man had broken with the biological cycle of life. If the planet should be saved, the circle had to be closed. Also in this book Commoner stressed the need for biological knowledge for approaching a closed biological circle. He even stressed an "ecological imperative" that should steer human kind (p. 118 in the Norwegian translation: *Ringen sluttet*, Oslo, 1972). But Commoner also focused on an other aspect of the environmental crisis, an aspect found in his earlier book, but not in such an explicit form: the cause of the environmental problems were of a social kind. Also made explicit in *The Closing Circle* was that since these problems were of a social kind, social means have to be used to solve the problems (p. 101, *ibidem*). But which social means? Commoner had many examples but he lacked a general approach on how this could be done. It is such an approach we find in *Making Peace with the Planet*.

While there are at times both criticism of science and technology in Commoner's earlier books, *Making Peace* shows us a flexible technology. Technology is no longer the evil itself, it can in fact be very environmentally friendly. Commoner present us with many examples on how problems can be solved with technology: redesign of power plants, new processes in agriculture and elimination of the smog problem. Many technologies have been environmental disastrous but a redesign of the "technosphere" as he calls it, is fully possible, both technically and also politically.

In sum, Commoners attitude towards technology is positive. In so being, he is in line with much of the environmental movement which during the eighties dropped its previous technology critique. There has always been some positive feelings towards technology among environmentalists. But in the seventies their positive attitude was directed toward an other type of technology: intermediate, soft, small. This technology has completely disappeared from the argumentation in general and also by Commoner. Commoner does instead deliver a critique against those arguing for a soft path. For him, the environmental problems can be solved with rather standard technology; no paradigmatic shift is needed with respect to

technology. He is then in line with an understanding of technology stressing it as flexible, an understanding commonly found among students of technology like Harry Collins, Wiebe Bijker, Jon Law and others.

But then the question becomes: why all these environmental problems if technology is not the cause? According to Commoner, they originate in how the development of technology is decided by the private companies: technological change is initiated by the producers and governed by the producers' interests (p. 80). This is a process where public intervention for the sake of the general good is cut off; environmental demands do not reach the main actors behind the technological development.

Commoner has many examples on how the producers have been pressing forward environmental dangerous technology. One example that he use in many chapters is how the American car, the polluting one, was designed through the will of people like Henry Ford II who stated: "Minicars make miniprofits". Hence large cars were introduced and large cars needed larger engines. To have the engines powerful enough, the compression rate had to be higher, and then: the smog problem.

If the limited decisions implementing limited interests are the main cause of the problems, the environment can only be helped if the decision process is opened to more general interests. Commoner states: "...substantial environmental improvement can occur only when the choice of production technology is open to social intervention." (p. 217) It is my stress on only here, but in general also Commoner's; the solution he present us with throughout the book is that of social intervention. The environmental problem then becomes a problem on how to find "...suitable ways to implement the social governance of production." (p. 217)

Such arguments are not unfamiliar among environmentalists; it was commonly argued during the seventies that if people, that is the general public, could decide, the problems would be of an other character, maybe not problems at all. These arguments came both from the left and the right of the political scale: those on the left argued for a democracy with direct participation, those on the right felt that individual rights and traditional values were threatened as they saw themselves with less influence. The argument may also be found among those not focusing primarily on environmental problems but on technology; also here there have been claims, take Jean-Jacques Salomon, early Jürgen Habermas and Lewis Mumford as examples, that technology would move in a different direction if public participation in the construction process was possible. But common to most of these writers is that they viewed the modern state and the parliamentary system as a problem. Not surprisingly; the most controversial issues around technology choice came in connection to projects where the State was one of the prime actors with the largest interest. Examples are nuclear power stations in Germany and hydro power dams in Norway.

For Commoner, it is the private companies that are the problem. Not in any dramatic opposition with the trend in the environmental movement in general that

either; the interest has turned more toward the pollution problems like emissions from industry and activities of each individual. The small sources are in many ways the most dangerous ones: the pollution from all the cars create the "Waldsterben", the freon gasses make holes in the ozone layer. There has been a shift among environmentalists from a political focus (but not with much political analysis) in the seventies, to an orientation toward the emission sources in the eighties. But in this move, the discussion about public participation in the making of technology disappeared among environmentalists. It disappeared without any changes in what the discussion was about: in spite of offices for technology assessments, there is as little public participation in technological development as ever. Commoner's emphasise on these issues is indeed valuable and refreshing.

We could have left Commoner here. But it is tempting to raise a question that is crucial to the foundation of Commoner's thesis: will public participation in the technology choice process really result in more environmentally friendly technologies? Commoner doesn't discuss the question profoundly, he takes it for granted that his thesis will hold. But he is aware of that, perhaps especially among an American public, his proposal might be taken as a support for the previous East-European regimes where the State was supposed to handle the public concern and where it also should have full control over all activities inside the state. In fact it has been claimed, by the East-German Wolfgang Harich in the book *Communism without growth* from 1975 (at Rowohlt Verlag in German) that the environmental problems could only be solved in regimes like those of former Eastern Europe; only they would have the power to introduce the necessary initiatives.

Obviously the Eastern European regimes are not an ideal for Commoner; the possibility for public participation was as small, perhaps less, than in the west. Also these regimes did very little to develop new technologies by themselves; the technology in use was developed by private interests in the west. Commoner states that it is obvious that a car produced in Togliattigrad under a Fiat-licence would pollute as much in Moscow as the Italian produced Fiats do in Rome.

Examining different political systems, Commoner must conclude that there exists no institutional example for the social governance of technology; his proposals remains an ideal and we are left to speculate whether it will work or not. I think however that my thesis has some answers on this through its studies of the conflict between environmentalists and industry. The environmentalists can there be seen as representatives of the public and they were able to get behind the factory gates to the private industries and put pressure on them. In so doing, they were able to discuss the choice of production technology with responsible parties of the industries. Did this change the path of the technological development? In my two cases the answer is no. I think the quite opposite could be stated: the environmentalists secured a path that had its origin long before there was any discussion about environmental problems. The main reason was that the environmentalists in the end did not differ from the industrialists in the view and

understanding of technology.

This does not mean that Commoner is completely wrong. I think his position and claim is very fruitful, and that it brings something into the environmental debate that was only fragmentary found there before. I also think he is right when stating that capitalism is an ill that govern contemporary society. But I also do think that capitalism is only a manifestation of something that is much more profoundly ill and as long as this ill is there, the end of capitalism will be no solution.

While the biologist Commoner focus on the limited possibilities of social intervention in technological and political choice, the political scientist Lynton Caldwell uses much of his book in "comprehending the planet Earth." From Caldwell we hear about the global ecological system and a stress on an ecological rationality. The failure of modern societies is particularly a lack of the latter, an ecological rationality. The political system in itself does not seem to be of any problem to Caldwell. But in a way he is more profound than Commoner because behind the political system, he sees a "crisis of will and rationality". Caldwell quote himself on this crisis, it was manifest to him almost 20 years ago. The main problem we face today is to overcome this crisis, that is to ground an ecological rationality.

What does such a rationality consist of? Caldwell shows a massive insight in the environmental situation, actors on the environmental arena and both local and global environmental policy. And more impressing: he is able to move between all these different fields. By so doing, many concrete guidelines for an environmental policy are offered here; not general as in Commoner's case but very specific. However, these guidelines may be rational but they do not betray any signs of being a new ecological rationality.

But Caldwell believe that there is a fundamental change going on; the title of the book, *Between Two Worlds*, suggests two things: first there is mankind's world on the one hand side and nature's earth on the other. It is between these two worlds that the crisis must be solved and Caldwell hence sees both a natural element and a cultural one in his solution. But second: there is also a world of the past and a world of the future. The position today is between these two worlds and a solution of the crisis can only be found by moving to the future world, leaving the old behind. We can perhaps call this shift, the notion is not Caldwell's, a paradigm shift.

Paradigm shift has been a widely used notion among environmentalists, especially in relation to science and technology. Alternative technology was a common phrase in the seventies. Almost as common was the speaking of an alternative science. The latter was not only to be spoken about; attempts to ground an alternative science was made. It must however today be stated that this attempt failed; the environmentalists of the eighties in many respect became more traditional scientists than the scientists themselves.

Caldwell doesn't take up the notion of alternative science. The move into the future world seems to be possible with the sciences we have at hand, we must only have them more at hand. Caldwell states "...for through tested knowledge it may be possible to ascertain more nearly the approximate truth regarding the consequences of human behaviour in the biosphere, and this knowledge may effect beliefs in what is necessary and reasonable." (p. xiii) Caldwell even has examples of how this tested knowledge can be at hand; on the global level the "...scientific basis for a transnational policy has increasingly been provided by the International Council of Scientific Unions and the scientific programs of the specialised agencies." (p. 126) The ecological rationality seems to be found by increasing the use of science and by reducing the number of "science-illiterates" (the notion is Caldwell's).

However, the illiteracy is not only to be found in the natural sciences. Sciences for the investigation of social behaviours is also necessary. Caldwell states that "It is curious, in a world in which scientific analysis and rationality are ostensibly valued, that dominant beliefs regarding political economy are arbitrarily and selectively constrained by narrow interpretations of rational behaviour." (pp. 67-68)

We note the adverb Caldwell use on the valuation of science: ostensibly. The general evaluation does not show the evaluation Caldwell thinks is necessary. But on the other side: Caldwell stress that there is, in general, a narrow interpretation of human behaviour. On several occasions he points to the non-scientific aspects of human actions and stating the need of both ethics and religious beliefs.

However, his main proposal is an expansion of an scientific approach in general, and into the social and behavioural sciences specifically. This science is not a new paradigm, it is a science as *episteme* and then in the Aristotelian sense, not in the Foucaultian. A differentiation of this expansion, for example in an Aristotelian way between science (*episteme*), technology and art (*techne*) and prudence (*phronesis*), is outside the orientation of Caldwell. It must be said that while such a differentiation has been discussed widely in philosophy, to make a reference to an American author, let us mention Richard J. Bernstein, it has not been introduced in any profound way by environmental theoreticians.

Caldwell does mention new paradigm sciences, or perhaps better: theories, like catastrophe theory and chaos theory. But he doesn't seem them as pointing to any paradigm shift (and in this he may be right), he sees them as directing toward an ultimate consistency in nature that "...science must simulate if the larger issues of evolution and cosmology are to be fully comprehended." (p. 194)

Let us return to Robert Musil and *The Man without Qualities* for a while. Here we find many persons with many qualities. One of them is the General Stumm. As a general he is well trained in the military world. In the social world however, he is like the man without qualities. With one difference: General Stumm is extremely eager to become a man with qualities also in the social world. He tries to become one in several ways. One is to visit the State library of the double

monarchy of Austria-Hungary where all the knowledge of the spiritual, and that produced by the spiritual, is brought into order in more the 3 million books. The books, or the visible wisdom, are catalogued, there are bibliographies, bibliographies about bibliographies, etc.

If all this wisdom of the civil world could be given into the hands of a general, would not the world be ordered into the best order ever seen? But Stumm, being without qualities, soon realise a paradox, a paradox that doesn't appear in the military world because there there is always an unreliable enemy. If everything is known, this unreliability disappears and then the paradox appear, materialised in the chief librarian of the State library: information and knowledge about all and everything leads to a paralysis. If we knew everything, had the sciences to cover absolutely everything, the civil world would loose its freedom. Everything known, there is no unknown to move into and man would not be a political animal any more.

How strange is it not to read in Caldwell's 1970-book *Environment: A Challenge to modern Society*: "If there is a moral for man in relation to the environment, it is to resist temptation to treat the familiar with the contempt on the assumption that it is nothing more than what one sees." (p. 251) One would think that a scientist should have the job of probing behind what one sees. But that is not what Caldwell then thought: scientists also should face their limitations, show respect both for the unknown and the familiar. I think that much environmental ethics could be developed from this statement. Caldwell has chosen an other way: he has dropped the ethics and instead focused on science.

In his books on ethics, Aristotle stated that it was fully possible for a young man to be a mathematician and a good one as well. But a politician? No. Firstly because the young man would lack the experience about the world. Secondly, he would think he could master the world with what he knew. The young man would lack the prudence and the political wisdom, capacities that makes it possible to act among unknown issues, knowing that they are unknown.

Perhaps we must change this understanding today? It is the younger Caldwell that seems to show the largest understanding of prudence while the older has become more fascinated by science. In relation to the environmental crisis, an Aristotle upside down does seem meaningful: it has most often been the youngest generation that has been most active in stressing environmental issues and that has been most aware of the limitation of a scientific based rational action. It has been the youngest that have been able to let values influence their actions, that has opposed the well founded argumentation of the elders.

So let us turn to Al Gore. Perhaps not young, still 30 years younger than both Commoner and Caldwell.

Reading Gore is far more refreshing than reading Commoner or Caldwell. Gore writes in a more popular style but that doesn't always need to be so refreshing. More notable is the variety of issues that Gore discusses and that he is able to give

content to those issues. Commoner's notion on public intervention remained an abstract and ideal notion, Gore is able to present us with different aspects of politics in a concrete and clear manner. Caldwell spoke about science all the way through his book but then more about science than the content of it. Gore shows insight in both modern physics and mathematics as well as social sciences and humanities, and he is able to present his insight in such a way that it should be possible also for those lacking this insight to understand what he writes about.

But perhaps most refreshing: Gore writes about and with himself; he tells us much about his personal experience, his own life and he does it in a very personal style. He doesn't do it because he is into some theory about "to write with your body" but simply because he writes in his own order, not through any ready made scheme.

And maybe it is his style of writing that will be most influential for an environmental concern. While environmentalists have been speaking about man's relation to nature, Gore presents us with both nature and man. This is not without relevance for Gore's main thesis: like environmentalists always have been doing, he speaks about the interrelation of man and nature. But this interrelation is not only to be found in an ecological system: human beings are something different from nature, they have what we could call an inner life, a spirit. As the subtitle of the book states: "Ecology and the Human Spirit" and both must be brought in balance in some way.

As in the case of Commoner and Caldwell, I will leave out most of the interesting aspect of this book and instead search for the main idea and to make a criticism of it. We will find this main idea by asking the question: how is the ecology and the human spirit to be brought in balance? The character of Gore's book doesn't give us the answer easily. Still there is one main idea that seems foundational for his understanding. It is clearly stated in the conclusion, where Gore says that if a balance is to be made, "the place to start is with faith" (p. 367) and the belief that there is a "spiritual reality larger than ourselves." (p. 368). Particularly the last quotation shows similarities with the younger Caldwell that also showed an openness and the need for an openness to what was behind the immediate apparent. But Caldwell left only a position open for the wonder of the unknown, Gore state that there is a spiritual reality behind everything and for him this spiritual reality is the Christian God.

The Christian God has many different shapes and forms, what is Gore's version? He himself take examples from modern physics and the theory of "self-organised criticality". He doesn't here explain his God, but I think we can see his God in it.

One example of the self-organised criticality can be shown by what happens when a pile of sand grows bigger and bigger as grains of sand fall one by one on the top of it. Once in a while, smaller avalanches of sand pouring down the sides of the pile occur. Sometimes, but more seldom, a grain of sand disturbs the whole pile; the pile is then organised in such a way that all the grains in it interrelates

with each other and the single grain influence this highly complex network of interrelations. The first type of avalanches occur when the pile is in a stage of subcriticality, the latter when it is in overcriticality. Both types move toward the same stage, that of criticality, the difference being that in the first case only some of the grains are affected while in the latter, the whole pile takes part in the process. In the latter case, there seems to be some understanding among all the grains on the necessity of reaching the critical stage, the stage of balance between subcriticality and overcriticality.

This phenomenon can be compared, says Gore, to phenomena in psychology. Here there is a theory that says that the individual, before reaching a certain stage of life, is mostly concerned with itself. After this stage has been passed, a stage that might be called a mid-life crisis, a far greater concern for other individuals occurs. This concern doesn't try to bring all back to the mid-life crisis but search for a harmony in the global group, to find a balance in life.

Gore expands these theories to both ecology and humanity and he thinks that both have passed the critical stage and a concern to find the balance will be necessary. Now mid-life crisis and sand piles have and are easily detectable stages of criticality; how to find this stage in the earth and in the human spirit?

By faith. God is the one that has created earth and human kind and given it the possibility for a balance, and through God a what Gore calls a spiritual or a philosophical triangulation is possible. A triangulation of God, nature and human kind, a triangulation that will cover all the grains of sand and spirits in the world so that a balance of both the human spirit and the earth can be found. Gore's God is the creator of a delicate harmony and he has to be there for the harmony to be found.

This God was not directly given to human kind. Mankind had to pass a critical stage in order to see God in everything. Monotheism passed this stage and they saw that God was present everywhere. For Gore monotheism represents a far more advanced level of human behaviour than the polytheism that saw separate spirits everywhere. As a global triangulation could be made with God then, it can be now.

By praising monotheism in the way he does, Gore opposes a quite strong understanding among environmentalists that has been blaming judeo-christianity for the environmental crisis. Well known is Lynn White jr.'s essay "The Historical Roots of Our Ecologic Crisis" that especially focuses on what the scripture says. Gore is aware of these positions and defends the bible, claiming that those positions are based on misreadings. One of the supports for environmentalist claims has been verse 28, chapter 1 in Genesis that in the King James translation sounds: "Then God said, 'Let us make man in our image, according to our likeness; let them have dominion over the fish of the sea, over the birds of the air, over the cattle, over all the earth and over every creeping thing that creeps on the earth.'" Here we have the source for western civilisation's conquering of the world, its suppression of nature, it has been claimed.

Gore oppose this interpretation. He stress that the bible says *dominion* and not *domination*. Dominion doesn't mean simply to set under rule, it also have the element that care should be taken when ruling. So far Gore. But the King James' translation is of course only one translation. If we take the Greek translation in the *Septuaginta* that once also was the official version for the jews, it says *katakurieusata* which literary translated means "set under rule". What does that mean? We could go on and I think Lynn White would find just as much support for his thesis as Gore.

However, a defence or a claim based on a single verse will in any case not be sufficient for the final court. Still I think Gore is more off the track than the critical environmentalists; monotheism has an element that has been influential in bringing forward an environmental crisis. I have to do as Gore and White here and present only one simple thought: monotheism is not different from Platonism in stating one order as a principle for all order. If this ordering of order can be claimed to be a factor in the generation of an environmental crisis, which I do claim, monotheism can not wash its hand. Especially not the way Gore does it when claiming Platonism as a source for the crisis with its making of an intelligible world beyond the real world. Why should Gore's spiritual reality be any more real than Plato's ideal forms? Because of faith could Gore answer. But why then such a consistency with the real world? I think Kierkegaard's understanding of faith as a jump into paradox is right and when Gore insists on a triangulation with his faith, I think he can be treated the same way as Kierkegaard treats Hegel, that is: with respect and understanding of the greatness but still the feeling that there is something fundamentally wrong with the foundation.

Commoner, Caldwell and Gore have made a shift in the environmental focus by not seeing the problem as solely ecological or political but in the interrelation between these two spheres. Still they are traditional when they want to order the field they have opened under one principle. I think that this principle can be set aside, and then we will find a large number of relevant solutions for environmental problems. But a general solution is not to be found. Maybe we can do without such a general solution? Maybe it will require to many qualities of us? Still there are arguments for that such a general solution can be found within the field that has been opened. Such arguments can be found in the book edited by Ronnie Lipschutz and Ken Conca: *The State and Social Power in Global Environmental Politics* from 1993 (Columbia University Press).

Lipschutz and Conca are even younger than Gore and so is most of, if not all, the authors in the book. They have newly finished their PhDs or are under the process of finalization. What we have here is a book by academicians, and perhaps it is written for academicians since it is here that the demand for a general solution most often rises.

Lipschutz and Conca state what Commoner, Caldwell and Gore mostly only

indicates: the natural world, the social world and the world of ideas can not be treated as purely exogenous to one another (p. 7). In the introduction they give examples on how all these spheres are interrelated in environmental issues in such a way that it is possible to speak of the non-linear interaction between a global ecological change and a global social change. But since they are interrelated, it is obvious that the interrelation is of a highly complex kind. However, they state that they "...were able to glimpse the patterns of a certain order in this chaos - ... - that left us not without hope." (p. 12) I would like to underline the two words order and hope. Because even if the editors promise a lot in a promising way, the outcome of their work is indeed a traditional one, especially with respect to the problem of order that is of my interest here. The book is social science, only with a new field of interest: environmentalism. Such research do have relevance for social sciences and it could have for environmentalism as well. But when some of the articles, when discussing relevant issues like that of power, are not able or willing to use some of what has come forward especially in the social sciences on the issue and instead use old classifications, one may ask about the relevancy of the book. Both for the social sciences and environmentalism.

Although initially the most promising of the books I have discussed so far, it comes out as the most disappointing. Maybe Aristotle was right after all?

I have now discussed the four books I was asked to give my opinion about, I will now move on to some other books that I find relevant for environmentalism. First I will take on one final American book before turning to Europe. This is a book that in a way makes a bridge between the two continents; the author has been in Norway for many years, studying Norwegian Ecophilosophy and particularly the philosophy of Arne Næss. I am speaking about David Rothenberg and his book *Hand's End. Technology and the Limits of Nature* from 1993 (University of California Press). If Lipschutz and Conca gave Aristotle right, Rothenberg is an example of the opposite, still having many years to go until he reach his mid-life crisis. And perhaps he then can create a little avalanche?

Rothenberg has shown a tremendous interest in Deep Ecology and especially its Norwegian version and one of the fathers of the concept, Arne Næss. He has translated Arne Næss' major ecophilosophical work and texts of other Norwegian authors that are, I suppose, completely unknown in the States. He has written a biography of Næss and now he presents us with his own monograph. We should expect here a broad and well orientated presentation of Deep ecology. That is not the case; Rothenberg states very early his criticism toward Deep ecology. Only in one sentence; his main interest is obviously not to fight with deep ecologists. But his book has something that moves in a very different direction than deep ecology.

What's wrong with deep ecology? Rothenberg criticises it for being mostly interested in the aspects of nature where there is no human intervention. This might be the case with American deep ecology, it is certainly not the case with Arne Næss. But still: the interest for the untouched nature has been a dominant

interest among environmentalists, and this interest has in some way produced a dichotomy between nature and culture where only nature has value. Lipschutz and Conca also aimed to break this dichotomy. But their intention remained an intention. Rothenberg breaks it by making a shift of focus; instead of speaking about nature, he speaks about technology. Not about technology as being hard or soft, complex or simple, but technology as the interrelating medium between nature and culture, as what he calls "expanded humanity", it is technology as *techne*.

In short Rothenberg's shift of focus means that nature is not longer to be viewed as something by itself, nature appear only through human interaction and this interaction with all its aspects, from the hand and man made tools to language, is called *techne* as the ancient Greek notion that included both the practical and *les beaux arts*. What the world is for man is what the expansion through *techne* covers, states Rothenberg, *techne* gives man his expanded humanity.

In Rothenberg's terminology we can speak about a circular frame which represents the end of *techne*. This frame is not only the practical use of technology. *Techne* is as well a medium for generating new understandings, it is through *techne* that the world can be understood, seen, conceptualised, made. *Techne* is then not to be seen as something that intrude itself into a nature, *techne* is what makes nature accessible, that generates nature. Outside the frames of *techne*, there is nothing - still. New things can be made and found but until so is done, there is not even a God outside.

This short presentation of *techne* does not in any way do justice to the complexity and manifold aspects Rothenberg gives it. That is not my intention, only Rothenberg himself can do so. I will however point to a problem that appear when making this shift: how to guide, or, to order, *techne*? Deep ecologists could easily use their understanding to generate political action; they had in their mind what they were fighting for. When Rothenberg makes the shift of focus that he does, the possibility for using his new understanding in political action disappears; there is nothing in his presentation that gives a moral to *techne*. He discuss Aristotle's differentiation between *techne* and *physis* but not Aristotle's differentiation between, only to mention one: *techne* and *phronesis*. What Aristotle said then I think still holds: *techne* doesn't have its goal in itself, hence there must be something else that guides it and we are then back to the problem of how to order.

We have now left the ecological discussion and gone into a discussion about technology and ethics. I will go on doing so. Because I think Rothenberg is right when stating that Deep ecologists, I will add ecologists in general, do treat what can be called nature only in a limited way; they are not willing to see that the nature brought forward which is also their nature is a result of human activity, not by any act by nature in itself.

I think there is an awareness that a shift of the discussion is needed. I will

now move to France where I think that this shift has already been made, perhaps because of the "lack" of environmental interests there. When environmental concern now at last rises, it does so in a different manner than it has been doing elsewhere.

To make the shift complete, I will move to another discipline first: technology studies. So let us take Bruno Latour and his *We have never been modern*, published first in French in 1991 (La Decouverte) and translated into English in 1993.

This book is not typical for science and technology studies. While these studies have to a large degree been a rather closed community with its internal fights and discussions, Latour opens up this closure and discusses not only science and technology but modern societies in general. There are two phenomena that give him reason to do so: one is the global political situation, the other is the global environmental situation. Latour's starting point is the same as the one of Lipschutz and Conca; they also took the global ecological and political situation as their point of departure. They stated that it was a dynamic between the two and so does Latour. But Latour is able to show us this dynamic.

While both the ecological crisis and the political are not generally seen in an optimistic way, Latour finds them to be miraculous. He speaks of the miraculous year of 1989, the year of the first international congress on global warming and when the Berlin wall fell. The congress shows that the nature we have been treating as nature all the time is maybe not this nature. The fall of the Berlin wall shows that the political solutions that should solve all the problems were not realisable. Still, faced with these two crises, there are many that want to proceed in the same direction as before, that is to find out what nature really is and to establish the right politics. By so doing, they keep open the split between nature and culture that according to Latour represents the modern constitution. With the miraculous year of 1989, it is time that we realise that this division doesn't hold, we have to become a-modern or non-modern. And this should not be so difficult either. For according to Latour, we have never been modern. Nature and culture as separate is only one feature of what we call modern. In the real world, nature and culture have never been separated.

Latour has throughout his writings been attacking the split between the natural world and the social. He has on numerous occasions shown how scientists and engineers use cultural elements when they construct a technology or find a nature. Hence technology and nature is not so pure as they seem to be. They are the result of a process of agonies where alliances with both nature and culture are made. Through these agonies, translations of the cultural and natural elements are made so that in the end the fights end and the pure artefact or fact is established. They are the outcome of a translation process where everything is mixed in a huge network of allies and non-allies.

The same is the case when culture, or politics is made. Politics is not a pure activity only dealing with cultural elements. It also has to make its allies and they

can represent what is called nature or technology as well as what is called culture. Also politics is a network of allies and non-allies where nature and culture are found in both groups.

The belief in the purified versions, the outcome of the agonies, the translation of the frameworks, was what made the modern constitution. It was an historical event which Latour locates to the debate between Hobbes and Boyle in England. Now it could be said that Latour gives us an historical reductionism, explaining the present situation by an historical event. But Latour also attacks history; the belief in future and past is a belief; the future and the past are also purifications like culture and nature. The reality is between all this, in the dirty places of politics and factories where the agonies are fought and the purified outcomes made.

Reality has always been there. The difference today is that we see this reality expanded to the whole world. While the agonies could be fought locally during the modern constitution, the global network has now become apparent. The global ecological and political crisis have now shown us the real world. Latour states that we now have "...a network that extends from my refrigerator to the Antarctic by the way of chemistry, law, the state, the economy, and satellites." (p. 144, English translation at Harvester Wheatsheaf, 1993)

With Latour we can criticise Commoner for having a belief in the purified version that is called politics and believing the solution to be found there. We can similarly criticise Caldwell: there is no argument to be found that should convince us that science should play any more fundamental role than let's say law. And to Gore: since everything is just networks, there is nothing outside the networks. God is no reality and Gore's belief is only belief.

Latour closes the separation between culture and nature without finding a principle, a purification, that shall be the leading principle. He demands only that we take part in the making process of the purifications, purifications that can be remade and translated by the network again to make new purifications.

In the general picture, what Latour states does not differ much from David Rothenberg's understanding. Rothenberg's concept of *techne* and the frame it covers can be translated into Latour's global network. But in a clearer form the problem we found with Rothenberg reappears with Latour: he states that we have never been modern and that we should go on being non-modern. Where is then the shift to come that shall change our moving forward? If we shall go on as before only with the understanding that we have never been modern, would not that be to see the environmental crisis and political crisis only as joyful events that clarify our understanding? Latour could say that now we have to think the networks globally and that will give us some hope. But then: how shall these networks be guided, ordered, so that actions that are destructive both in the political and ecological sense can be prevented? The ideal person in Latour's model would be like the hero Bazarov in Turgenev's *Fathers and Sons* who dissects frogs *en masse* to translate them into his scientific and social world. One of the fathers,

Paul Petrovitch, says about Bazarov: "*He doesn't believe in principles but he believes in frogs.*" The statement is ironically meant for Bazarov does not believe in frogs either. So why does he kill frogs?

Now we move from the technology to the thing that tells us whether we should kill frogs or not? Is there no moral that tells us how to behave, be it toward nature or toward culture? And if there is not, should there not be one? In fact, very much of recent environmentalism has been directed at making such a moral. It can be said that it is not ethical that nature is left outside the sphere of morality and since it has been left out, there has been nothing to prevent man from forcing nature to subject to his rule. One of the strongest advocates of a moral toward nature has been Hans Jonas and his book *The Principle of Responsibility*, first published in German in 1979. Here Jonas does not argue only for an ethics for nature, but also for what has not still come into being, like coming generations. A book that was particularly read in Germany and it is to my knowledge the only book of that kind to be discussed in the German parliament where representatives of all parties gave it honour.

But if we join this position of giving rights to all existing beings, or future beings, we have in a way come back to our starting point but only at an other level: the ecological position argued for how man was only an animal in the ecological circle. Obviously an animal that had left the ecological harmony but it was to be hoped that he would return. Now we have a similar equality on the moral level; animals are moral subjects as man and they all participate in a global morality. This position can clearly be seen in some environmental organisation's fight to protect some species where they attack cultures that for centuries have been living from hunting these animals. Sometimes this finds in extreme forms where environmentalists set animal rights above human beings. We have seen examples of this when environmentalists criticise Inuite settlements for their seal and whale hunting. Hence globalising a moral principle as well as globalising an ecological, oppose Aristotle's saying that man is a political animal, and the difference between man and animal the adjective political means.

When environmentalism reach a form like criticising the Inuite culture's way of living, which has been in harmony with nature for several thousand years, it is no wonder that environmentalism meets distrust and scepticism, even critiques of the whole idea of environmentalism. The latter is the case in another French book; Luc Ferry's *The new ecological order* that was published first in French in 1992. Perhaps not surprisingly that in a country like France where environmentalists ideas have had little impact but where the fight for animal rights has been very visible, as Brigitte Bardot's work shows, that a book criticising the very foundation for ecology and environmentalism got to the street window of book shops throughout the whole of France and reached the top of the sales list for non fictional books. I was in France when the book was published and I didn't see anyone making a defence of themselves or a counterattack on Ferry. The book

seems to have found a confirming audience.

Now Ferry's starting point is not Aristotle but English empiricism and the liberal thoughts - John Locke and his principles of rights - and the development of these ideas during French enlightenment, among others by Rousseau. While Rousseau clearly has his connection with environmentalism by the way he was interpreted by Romanticists, Ferry use Rousseau to state what Ferry find to be Rousseau's most fundamental principle: man is anti-nature. Here we do not have Aristotle which points to the difference between man and nature; Ferry simply state that man is not nature and has never been. That is the prime characteristic of man and it is this characteristic that has made humanism and liberal rights possible. So while Latour says that there is no difference between nature and culture in principle, this difference is a first principle for Ferry.

Ferry has earlier together with Alain Renaut published *The Thoughts of 68. Essays on the contemporary anti-humanism* (Gallimard, 1988). This was an attack on the most prominent figures in modern French philosophy and social sciences: Jacques Derrida, Michel Foucault, Pierre Bourdieu and Jacques Lacan. As the subtitle indicates, Ferry and Renaut saw in these thinkers and theoreticians a sort of anti-humanism that was dangerous to the foundations of modern liberal societies. They were not afraid to draw parallels to anti-democratic thoughts in Germany when explaining the theoretical foundation for this anti-humanism, and it is hence obvious where Ferry and Renaut saw the danger and possible consequences of the theories of those they attacked.

Ferry sees much the same in modern environmentalism as he saw in contemporary French thinking. Giving nature rights on the same level as human beings is a sort of anti-humanism. To put humans on the same level as animal means also to break with a fundamental ontological understanding of man as a being with reason. If reason is given the same value as instincts, this may soon lead into irrationalism.

Ferry further claims that environmental thoughts, at least those that give support to the ideas of deep ecology and the fighters for animal rights, rose originally in connection with irrationalism and anti-humanism. Germany under the nazi-rule was the first country to establish laws both for the protection of nature and to give animal rights. Laws were made before but those during the nazi regime were of a much more profound character than the earlier; Ferry claims that the nazi-regime was the first to consolidate an ecological project together with a real possibility for political intervention. He has even scrutinised the speeches of Adolf Hitler and found evidence for his thesis through sayings of Hitler like "*In the third Reich, there will not be allowed to torment or tease animals.*" (quoted on p. 181, translated into French)

When Ferry connects the environmental ideas in such a way with totalitarian and anti-humanistic thoughts, he doesn't seem to be aware of all the problems, both of historical and philosophical kind, in finding the roots of fascism. One could easily oppose him with the thesis of Adorno and Horkheimer that it was the

liberal ideas itself that resulted in the fascist regime.

Still there is something in Ferry's sometimes vulgar attack. Especially when he discuss how ecological principles and animal rights are based on scientific investigations. Firstly when the facts are hold to be non-disputable, it can still be questioned whether they shall be superior to moral positions or not. Secondly and more problematic: when courses of action is chosen on the basis of findings that are highly disputable like for example many issues around global warming, is that not a suppression of rights?

Ferry also makes an important observation when he sees that whatever rights we will give to animals, it will always be our rights, not any rights that the animals or nature has established through negotiation with us. As long as there are no mode for communication between human society and nature, all rights established on behalf of nature will be human rights.

But perhaps is it exactly here that we must break with Ferry: are there really no modes for communication between humans and animals, between culture and nature? All the books we have been looking on so far has in fact had this problem as something central in their whole argumentation, even if it has not always been articulated. Even Latour has his network for translation between the two. The problem has been how this communication should be made? The principles posed by Commoner, Caldwell and Gore, that can be seen as guidelines for such an communication, have not given us any new way of doing it; their main principles were rather traditional. Latour lacks the guideline, and Ferry refuses to cross between nature and culture.

So let me then finally introduce Michel Serres and his book *The Natural Contract* from 1990 (*Le contrat naturel*, François Bourin).

Both Latour and Ferry are very focused on Serres. Latour because he here finds an allied in his argumentation; in fact Serres spoke about networks already early in the sixties and about translation of networks in the early seventies. On the other side Ferry attacks Serres, seeing him as a deep ecologist that tries to establish, especially in *The Natural Contract*, rights on and in nature. I think both Latour and Ferry read Serres primarily through their own projects and their reading contradicts strongly with my reading of him. I have of course also a project that I read Serres through so let me present my reading of him.

I read *The Natural Contract* already when working on my thesis and I found it then to be an extremely interesting and important book in relation to my focus on environmental concerns. In a draft for the final chapter of my thesis I tried to present Serres as a new direction for environmentalism to go. I failed to do that. I was not able to synthesise his thoughts in any simple manner. I am still not able and I will here only indicate two routes that I have found by him.

In fact it is a little strange that it should be so hard to read Serres; he writes in a very easy manner and his language can be, if at all, characterised as literary. But perhaps exactly for this reason he is so difficult to read - for a scientific

purpose. He doesn't reduce his approach to manifest one thesis or to broaden up concepts. His writing is his thesis and it shows a multitude and flexibility that moves around in different spheres and positions; Serres shows and has insights in everything from literature to mathematics and he uses all his insights when writing.

Maybe it is in his language, in his writing, that we can find the guidelines for how we can communicate beyond the simple language of ecology or the simple language of rights, a communication with the unspeakable, and that is: with nature.

But there are also more direct proposals; I will take out two of them: one is how to act in a field where not everything can be known, understood, seen or perceived; the other is on the interrelation between science and justice.

Time and weather seem to be two quite separate phenomena. Still in French, *temps* is the word used for both. Whether this is by chance or by wisdom, we do not know. But still: couldn't it be that there is something in common with those two apparently very different phenomena? Serres shows how both the farmer and the sailor who worked under the open sky could not separate these two phenomena; weather and time were interrelated, the farmer had to cope with the changes in seasons and growth, and the sailor the changes in seasons and trade. Although there was a rhythm to it, no final forecast could be made. The farmer could handle periods with a lack of rain and the sailor could handle unexpected stormy weather but only to a certain degree; they could never be sure of what time and the weather would bring. They had to find openings for the unexpected so that also this could be handled. In no way could they do this by setting their own order on nature; that could lead to a catastrophic outcome: destruction of the earth or shipwreck.

But that was exactly what mankind did. The symbol has been used so often that it doesn't harm to bring it in relation to environmentalism: when Odysseus passed the sirens, he escaped the dangerous cliffs. But he closed off the possibility to be aware of the danger that was outside his world. He wanted both: both to hear the song and escape. But then he made a split between the two; he could guide his own route, being ignorant of what he did not know. He had made his world safe. But could he be sure about the future? And what should tell him about the dangers that he could meet?

Odysseus had Pallas Athene to guide him. And that saved him. After all, in spite of his ignorance of the powers of the Sirens, Odysseus realised that he could not fully trust only himself, he had to be open to what was around him.

When Serres demands a contract with nature, it is a contract that opens up this possibility again. Not to symbolise what is around through any god or any theory, simply to be open to the movements that are all around us, to connect to time, our history, with the weather, our physical environment. Perhaps Serres thinks in the same way as Heidegger did when he compared Hölderlin's poem "The Rhine" with a hydro power station in the same river. Both being a sort of *techne* but the first one was open to the movement that could be sensed from the

river, the other interrupted it. The first one could think temporal and spatial, the second ordered time and space according to those that ordered the power station. But not completely in the same way; because Serres wants a symbiosis: the engineer must be a poet and vice versa. It is a connection between the global and the local that must be found and this is a natural contract as well.

Serres' proposal might seem vague; nice on paper but what about practice? So let us look on the interrelation between science and justice, knowledge and rights. We think today of these as separate; science is objective neutral, freed from any practising power. Science is only used, it doesn't predict the use. On the other side justice stands above the facts. It may be wrong about them but that doesn't blur its legitimation; it only connects itself to the supreme principle of justice. Because of this separation, the network of Latour can be seen as lacking a law and similarly Ferry can attack deep ecologist for trying to establish a right on the base of scientific findings.

However, the origins of justice and science are not separate; in the cultures and countries that made the foundation for the western world, ancient Judaism and ancient Greek, but also Egypt and Christianity, there where a profound interrelationship between the two, science could not move without justice and justice not without science. This symbiosis can be found in the most ancient myths: when Adam and Eve, thirsty to expand their knowledge, takes a bite of the apple, they touch upon the law. They break the law by expanding their knowledge. But when so doing, a new law for the new world they have conquered with their knowledge is made. The court could always ask science: *with what right* and the science the court: *with what knowledge*.

When science expanded, the law followed. Science opened a new world, it gave freedom, moving from a given order to a new order. But the law followed and gave an order also for the activities to be taken in the new field. And when the law went into the unknown outside the known world, into a new world of freedom, science followed.

Not so with Galilee. He discovered an other world outside the world that was known and ordered. The law immediately followed Galilee and asked: on what rights do you have this knowledge? Galilee's rights were given from an other world, the world that moves, the earth. But this earth was not considered as legitime by the court of the Vatican: the only appeal court was to God. Galilee had to bow his head and accept the supremacy of the Church and their appeal instance but while bowing his head, he whispered: still it moves. Galilee went into this world but with no law in hand; the natural right and what could have been the rights of nature became the natural sciences; the reason that judges and the reason that proves went in separate directions.

Serres also holds a professorship at Stanford. He was there, in Palo Alto, in 1989, when the earthquake hit California. And he felt the earth moving under his feet, it was trembling. The earth was there as an own subject, it stroke back on the natural sciences that has invaded it, treating it only as an object. So why should not

the earth have a right?

Can the rights and the sciences be brought in interrelationship so that our expansions into new worlds, the circular frames of *techne* to use Rothenberg's terminology, is rightly done? Serres thinks so. It is a question of education and instruction. The first forms the prudent judgement, the second the valuable reason. And so what? Serres state: "Education forms and strengthens a prudent being that judge himself as finite; the instruction of the true reason throws itself into the indefinite future." (p. 149) It is a question of being able to handle both the known and the unknown.

If I read Serres rightly, I think that he is stating that it is only in the unknown that we can find any form of y: a multitude of life but only one death, thousands of cultures but only one nature; the outside is always universal and this outside, must take part in our judgements and our truths.

For me the environmental crisis is a sign of an order set on the world that the world refuses to accept. A solution can not then be found by imposing a new order. Maybe for a while but what will this new order result in?

I think the crisis can only be handled if we are able to find a solution to how we can order things without imposing them our order. One solution is Musil's: refuse to impose order by admitting that we are without qualities to do so. I think Serres shows a way of handling an order without order everything. And there are many others. But perhaps a solution is to be found by him that first made order a principle, namely Socrates.

In the last chapter of my thesis, I attacked Socrates for what Plato let him say in the final chapter of his Republic: "...measurement and calculation ... the most noble forces of our souls." I took this statement to represent the ultimate ordering, the order of order, and I still think that this is a, and perhaps the most profound element, of our culture and also the element that has made our ordering, disordering, of nature possible. I said that perhaps a change could be achieved through an Anti-Plato, one that would introduce an other principle for order. This Anti-Plato I think is Socrates himself. It can be seen in his famous statement: "the only thing I know is that I know nothing." This sentence is in my view the very foundation for a non-religious ethics, combining both the local, that is known, and the universal, unknown. Much can be written about this statement. But I think that Socrates himself showed the right way by never writing, from what we know, a single thesis. No books will ever solve the environmental crisis; at their best they can open up for a new field of thinking and understanding, at their worst, they load down a specific order. Fortunately we are all in the lack of some qualities and we will never be able to grasp in a full way any book. But let us then be aware of this lack of qualities and act with this awareness. As political animals, we will have the politics to guide our action. But as political animals, not all our actions can be guided politically. Realising this, I think, is a way of bring both nature and culture into play. I think such a play is necessary and valuable and it can be played, even

if we are all without qualities. Only by realising our lack of qualities, can we find qualities elsewhere. Perhaps then the qualities of nature could be present to us as independent qualities, qualities we could act according to, not only use with our qualities.

Literature:

For all non-English literature referred to in the text, except for Latour's book, I have translated the original title into English, ignorant of whether a translation of the book has been made or not. Here are the references with their original titles (all books published in English have their references in the text):

Luc Ferry and Alain Renaut: *La pensee 68. Essai sur l'antihumanisme contemporain*, Gallimard, Paris, 1988.

Luc Ferry: *Le nouvel ordre ecologique. L'arbre, l'animal et l'homme*, Grasset, Paris, 1992.

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