



THE KYOTO HORIZON

The Problem of Environment

Joan Carrera

José I. González Faus

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"We are reaching the point of no return. The current rate of fuel consumption in Europe and the USA is unsustainable. And this will only get worse if China and India grow by 9% each year.

I live in Kenya. I witness unimaginable poverty every day. I am not talking about defending the environment for our wildlife, which is also incredibly important, but rather because protecting it is economically profitable for poorer countries."

Klaus Toepfer, UN Secretary for the Environment.
(*El País*, 24th April 2005, p. 38)

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THE IMPORTANCE OF THE EARTH

My reflection on the problem of the environment is above all directed at those people who are interested in the theme but who believe that things aren't as bad as they seem. Also for those people who voluntarily try and change something in their immediate environment, by recycling their domestic waste for example, but who don't consider more significant changes. In short, this is for people who use their cars without thinking twice about it and who are happy when they see another lane being added to the motorway, but who become angry when "their" street becomes pedestrianised, and who would possibly stop voting for a particular party that was proposing to implement some type of eco-friendly change, because they considered it unnecessary.

1. INTRODUCTION

To begin with, I would like to avoid the tendency that others who are also concerned about the environment often lean towards. We usually begin by listing out a series of facts and statistics that describe the current health of our planet. This is also what a reader normally expects to see when he is reading

some article on the environment: detailing how much the hole in the ozone layer has widened, or how much the global temperature has risen...

In spite of my initial good intentions however, I fear that it will be necessary to offer some relevant information, mainly because many of us are not suf-

ficiently aware of what is happening in our global habitat, or in our own country, or even in the much closer environment of our own city. And this is because we are still going through a phase in which the environmental problem is for many people, an invisible one. When someone takes the trouble to investigate a little, he realises that the problem is in fact already affecting a large sector of humanity, and that poverty and environmental destruction are not two separate phenomenon but are instead linked, and interdependent. It would be nice if we could apply the same rules that are practised in medicine to the environment. For doctors, the most effective treatment is administered to the patient in the early stages of an illness, often before any symptoms have even been displayed. This is why we now see the appearance of techniques for the early diagnosis of patients, which allows treatment to begin in the preliminary stages of a disease. In the same way, from an environmental point of view, early attention to the problem would avoid much economic waste, given that it costs less to avoid contaminating the environment to begin with, than it does to try and decontaminate it once the damage has been done...

Neither do I want to fall into the temptation of presenting the issue by expressly stating that no measures to combat the environmental degradation of our planet have been taken. In Western countries, more and more legislation is being introduced to protect the environment, and businesses are increasing ways in which they can be as environmentally friendly as possible. All these

measures come at a high price however, and many developing countries are unable to introduce them for this reason –they would have to stop selling the industrial goods that generate these pollutants in order to comply. One should also remember what was highlighted by various non-governmental organisations and environmental movements on the so-called *ecological debt* issue. This is the debt owed by the countries that became industrialised before any others, towards the countries that began their industrialisation process at a later stage. The latter group has a much more costly way ahead of them, as they have to put in place and apply these environmentally friendly measures from the outset.

For many environmentalists, these type of measures, also known as “end of the pipeline” measures, are not effective in tackling the environmental problem, and therefore throw the whole modern system of production into doubt. Often they are solutions that consist in installing filters, or introducing a way of re-using materials, but they are always put in place at the end of the production process rather than at the beginning.

As we put the entire modern means of manufacturing under the spotlight, one starts to talk about the need for an “eco-economy” that views the “human economy” within the system that is “planet Earth”. This stance, which has often been seen as a more “radical” viewpoint would, according to many people, be the only long-term sustainable way of preserving human life on Earth. Those in favour of the current

economic system would need to be shown its limitations. They would need to be shown not only its ecological limitations but also its inherent injustice in relation to the distribution of wealth, and the limitations that exist caused by the ongoing conflict to secure control of various energy sources. Let's think about the geographically strategic motivations that lie behind our recent wars: Afghanistan, Iraq, Nigeria, and Chechnya... In all these conflicts, the control of global fuel resources (combustible fossil fuels), was a principal factor, particularly at a time when for certain countries, it was very important

to be able to at least secure its fuel supply during this period of transition as we move towards a post-petroleum (and natural gas) era. Some authors use evidence to highlight the fact that there are currently several petroleum companies that have started to invest in new forms of energy, taking the imminent depletion of fossil fuels very seriously. In fact, since the petrol crisis of 1973 when OPEC suddenly raised fuel prices, many European countries started to focus on searching for alternative sources of energy, in order to make way for economies that would not be solely dependent on petrol.

2. ARE WE WORRIED ABOUT ENVIRONMENTAL ISSUES?

According to surveys, the environment *is one of the issues that concerns society* in many Western countries. This preoccupation can mean many different things; and it does not mean the same for a citizen of Barcelona as it does for a fisherman from Roses. For one person, it might only mean excessive noise in the streets on a Friday night, or wider issues that they may have read about in newspapers or magazines. For another, on the other hand, it may affect his traditional means of survival, and have repercussions for his most basic material well-being. It is not unheard of for some fishing companies in the Mediterranean to voluntarily impose closed seasons upon themselves when

fishing is prohibited, seasons that go above and beyond the legislation that is already in force, in order to give various species the time they need to reproduce. These people are acutely aware of the consequences of the overexploitation of our fishing resources.

Are we talking about a new problem for humanity? Perhaps the magnitude of this problem could be seen as new; but some authors¹ have speculated on how ecological problems may have influenced the decline of certain ancient civilisations living in more enclosed habitats (for example, the Maya civilisation, or the Sumerians on Easter Island)... Maybe we should start learning more from our past and abandon the blind, in-

1. TAINTER, J., *The Collapse of Complex Civilization*.

finite faith we have in the powers of Science, and our belief that it can repair the negative consequences that Science itself is responsible for.

The first environmental movements were formed in developed countries and operated by *mobilising groups of people, who were faced with serious issues that affected them in a very direct way*, but they mainly operated on a more aesthetic level: e.g., rubbish dumps that were too near residential areas, smoke from nearby factories, the destruction of woods where people used to be able to

go walking... Today there are several environmental movements in existence, as many in developed countries as there are in poorer countries, because ecological problems have ceased to be solely aesthetic ones, and have become problems of daily survival. For the farmer in India it is becoming harder every day to drill wells in order to find underground sources of water for his crops... And in a country that is so densely populated, this problem then translates into food shortages for a large sector of the population.

3. WHY AREN'T WE THAT WORRIED ABOUT THE ENVIRONMENT?

As we have already explained, surveys always reveal that the environment is a problem that worries a lot of people, but other more immediate problems will always have priority over it: unemployment, the price of fuel, crime and safety... We should ask ourselves why we always have a tendency to reduce the importance of this problem as opposed to other issues.

– *Firstly, we are usually only interested in those problems that affect us or that affect those close to us (“our” river, “our” neighbourhood...)* We also possess a real “short-sightedness” when it comes to those issues that do not affect us directly. Our world of new technology has revolutionised our perception of both time and distance. We can see events that are taking place miles away and we can transport ourselves, by aeroplane, from one place to another in a short amount of time. This allows us

to feel closer to the peasant in India who has lost everything in the floods. However, the fact that we are constantly bombarded by such tragic images that are beamed into our homes, means that we end up becoming accustomed to them, and for this reason a sort of collective insensitivity emerges and we shut ourselves off in our own little world and our own daily lives. When we read an article about the environment in some journal, we come across an avalanche of facts that are both alarming and catastrophic. But in the end, these facts bring about the opposite effect in the reader, and end up desensitising them, rather than making them more aware of what is going on. We will look at the reason for this attitude in the following point.

– *Secondly, when confronted with these problems we have little actual awareness of the risk factor involved.*

The environmental risk factor is not fully appreciated, (except in certain disasters, such as that of the nuclear power station in Chernobyl), given that the effects of environmental degradation take place over a long period of time, and are in some cases, invisible. For example, look at the effects of radiation, caused by the progressive destruction of the ozone layer, on the formation of blood and skin cancers. Due to the type of environmental danger involved, our awareness of the risk factor is relatively low. People only react towards sudden events, which take place in a brief period of time such as earthquakes or floods. People have always wondered how the European or American nuclear programmes would have been affected if the nuclear disaster in Chernobyl had taken place in New York, instead of in the far-off Ukraine, which was in the middle of making the transition from communism to capitalism. It is difficult to increase people's awareness of the risk factor when that risk is invisible. For example, people always feel more at risk when travelling by air than when travelling by car, when in fact the accident statistics are much higher in the case of cars. Nevertheless, it seems that when one is controlling the situation (such as driving one's own vehicle) the awareness of the risk factor involved always seem to decrease. This is why people will need to be educated about severity of the problem of the environment, and shown that it is affecting us in a slow and subtle way...

– *Thirdly*, when faced with these problems, *people always think that the politicians and experts are already on*

top of the problem. We have the impression that these problems are way over our heads and that we are unable to do anything by ourselves, apart from perhaps a few conscientious actions, such as recycling domestic waste or travelling by public transport. We live in a culture that believes that only the large-scale projects, or the policies of great institutions are really able to transform reality, and not the actions carried out on a smaller scale. Yet these are the very actions that can transform reality, because they emerge as the concrete response of individuals to concrete situations that are important to them. From the smaller actions and the local sphere, we can begin to understand and collectively become responsible for problems that are further away.

– *Fourthly*, it is often *the ordinary citizens (usually from urban areas), who believe that the environmental problem is exaggerated and / or alarmist*. We should ask ourselves if the problem really is exaggerated, or if the average citizen, from an urban and westernised area, has so little awareness of the environmental risk factor involved, that to him, everything seems to be blown out of proportion. Also, although some will admit to the existence of environmental problems, many citizens place all their faith in Science and believe that it will be able to resolve these problems in a favourable way. Today's culture of scepticism, that brings with it so-called post-modernism, has not affected people's belief in techno-scientific progress. That is why a certain awareness of our human vulnerability in relation to Nature has been lost. We have forgotten

that there is still one sector of humanity in existence that is completely exposed to Nature: to its earthquakes, flooding, epidemics, and cyclones... Urban culture has gone to the extreme of losing Nature as a point of reference. For example, it would be unthinkable for someone living in the country to hope that it wouldn't rain, just so they didn't have to open their umbrella or get stuck in a traffic jam. This is simply because people living in urban areas have lost the connection between the rain and agricultural production that is essential to our well-being.

– *Fifthly, some scientific facts about environmental issues sometimes seem contradictory in comparison to others.* This is because there is often no experimental model to go by, and because we are looking at a hypothesis that has to take many possible variables into account. Also, many of the alleged effects are more long-term, and are therefore difficult to measure accurately. We have heard people talking about the climatic changes, and how the average temperature of the planet is increasing, and the repercussions of this effect, that will for example cause the desertification of wide areas of southern Europe. Yet at the same time, we are presented with the hypothesis that the temperature of Europe could decrease due to the possible disappearance of marine currents

coming from tropical areas that heat the continent. These contradictions are actually emphasised by many people who want to discredit or minimise the environmental problem, and in this way save themselves from the profound changes that are necessary in their lives to resolve the problem.

– *Sixthly*, when we hear people talking about environmental issues, subconscious mechanisms in our minds are activated that have the express aim of defending our current way of life. Environmentalism calls our comfortable style of modern life into question. Why do we choose to go by car and not by public transport? Why do we waste so much water on our hygiene? Why do we need so many things in order to live? Do we ever take a moment to notice how little time we actually spend using the products and gadgets we have acquired? Environmentalism is therefore seen as a threat to our modern way of life, in that it touches on the point of futile consumerism, which we as citizens of richer countries are responsible for. In short, we have become too attached to our way of life, this way of life that environmentalism tells us can no longer be sustained and cannot be enjoyed on a universal scale. This realisation is why we don't want to know too many things about the negative effects of our current way of life...

4. WHY ARE ENVIRONMENTAL MOVEMENTS IMPORTANT?

Before answering this question, it is important to remember that these types of social movements are incredibly diverse. A simple glance at the internet will make one aware of the huge number of these movements that exist in Catalonia, Spain, Europe... Many societies, of different types, some small (in their number of members), and voicing different concerns, some rooted in the political domain of conservatism, others belonging to left-wing movements and some even belonging to libertarian groups... So there is nothing remarkable about the fact that such profound differences exist between them as to how they should respond to environmental issues.

In Catalonia for example, some are firm believers in wind energy as being a solution to the environmental degradation brought about by combustible fossil fuels, and they therefore support the construction of wind farms.

Others that are more sensitive to the visual impact of such stations and their detrimental effect on birds, are against the construction of these wind farms. These characteristics (so varied, and from a decentralised network), form part of the intrinsic nature of environmental movements. According to the definition of the sociologist M. Castells in his trilogy *The information age*, they share "...a collection of beliefs, plans, theories... that consider humanity as one component of a wider eco-system, and desire to maintain the balance of that

system from within a dynamic and evolutionist perspective". The importance of these movements, that often begin in very localised areas in response to concrete problems, and that bring together people who are sensitive to ecological problems, is their role as a mediator between the powerlessness of the citizen that is concerned about the environment, and the influence of both the Market and political structures that are able to bring about changes.

These movements have the power to mobilise people at a local level, and thanks to their links with other groups, their influence has far-reaching potential. They also remind us that as citizens, we can have more power than we imagine in the face of politicians and the "god of the Common Market", given that we have the right to vote and also hold the power to choose whether or not to buy certain products. This latter power has sometimes shown itself to be quite useful in response to the behaviour of certain companies or public institutions. In spite of this, environmental movements do not have much sway when it comes to supporting causes that are more remote, whether they are in the distant future, or at a distant location.

It is not the same to fight against the draining of the River Ebro in Amposta as it is to fight against the destruction of the ozone layer, or the deforestation of China, which has caused the great flooding that the country has seen in recent years.

5. WHAT ARE THE MAIN CHARACTERISTICS OF ENVIRONMENTALISM?

1. The relationship between environmentalism and Science

Environmentalism has quite an ambiguous relationship with science and technology, in that on the one hand, certain conservation groups emphasise the negative effects of technology on the environment, while on the other hand, they also depend on much of the scientific evidence and statistics that scientists can provide in relation to the effect of that same technology on the atmosphere. We could even say, in a type of play on words, that environmentalism uses science to oppose many of the issues that science itself has brought about, concerning a basic respect for life. Conservation seeks a more holistic perspective on reality, and not the partial viewpoint that is offered by science, which only concerns itself with one aspect of reality without taking everything into consideration.

2. Concerned with local issues, but interconnected

Conservation concerns itself with a lot of local issues (a slogan of one of the first American environmental movements was “Not in my back yard”), but early conservation movements soon began to link to other similar movements and create a network, in such a way that they became one of the first movements to really take advantage of current world globalisation. From local problems,

they often went on to realise that their cause was greater than their immediate environment, and therefore sought more global solutions. That is why some people say “environmentalists are localists when it comes to defending their space and globalists when it comes to the passage of time”.

3. The passing of time: looking at long-term issues

Environmentalism talks about the concept of a potential “ice age”. It introduces this future time into our concept of temporality, and thus forms a link between our life and the lives of our children and of future generations. Lash Urry defines this by saying: “The relationship between humans and Nature is evolutionary and very much rooted in the long-term. It looks back at our immediate human history and looks forward to a completely indefinable future”².

This concept in the field of moral thought was introduced by H. Jonas when he looked at the changing identity of our “neighbour”: formerly he would have been the person that we could see, while now we have to think about our neighbour as being part of a future generation, someone we can't see, but who will find themselves affected by our actions in the here and now. One example: our generation, with its social and political power, will certainly be able to sur-

2. URRY, L., *Economies and signs of space*, 1994.

vive the destruction of one or two forests in the world, but will our children and grandchildren be able to survive it? This is why environmental problems and also the appearance of genetic engineering have caused us to broaden our temporal perspective in relation to those people whom we should respect.

4. The human species within Nature

Environmentalism is characterised by integrating the human species with his natural environment, instead of placing him outside it, or suggesting he is above it or not working in conjunction with it. It has also emphasised that an impoverished natural environment will ultimately result in the impoverishment of the human species, in such a way that defending the human species also becomes part of protecting the whole biosphere. This characteristic was already part of the lives of primitive peoples who knew that their lives were dependent on maintaining a good relationship with Nature, and that this was why they had to respect it. For this reason, environmentalism has listened to and taken on board much of the wisdom of indigenous peoples that enjoy a much better relationship with Nature than Western society does.

5. Environmentalism and mass-media

Environmentalism has adapted very well to our *mass-media* society, in such a way that it has been able to make use of it to help people become aware of is-

ues on the other side of the world, as well as using it to spread this knowledge as much as possible.

Environmental clashes that have been instigated by certain minority groups have become more widely publicised thanks to the internet and to the communication network that exists among major environmental groups.

Some movements like Greenpeace have used libertarian tactics, such as leading by example, in order to make people more aware of the issue. For example, who could forget the images of militants from this organisation boarding boats? At that time, it was incredibly important to organise some spectacular event so that it would be picked up by the world's media and cause a huge public reaction and a public debate.

We find something similar in the prophetic acts. The effect of these actions would not have been possible without the existence of a means of communication by which their impact could be broadened. In today's world, we deceive ourselves into thinking that the only things that make the news are those items that contain something spectacular about them.

6. Is environmentalism a problem of the Justice system?

During the final years of the twentieth century, environmentalism became involved with the problem of world justice. It wasn't by mere coincidence that minority groups and poorer countries found themselves most affected by environmental problems. This is why some people prefer to talk about

Environmental Justice, a term that leaves the more aesthetic roots of the movement to one side, that had been the original aim of the environmental movements of richer countries. Now people want to link the problem of wealth distribution with the problem of environmental degradation, given that both are found side by side in many countries. Poor countries and minority groups are increasingly suffering from the degradation of their “habitats”. That is why Environmental Justice has focussed on the issue of equality, and now combines a respect for people's differences with ecological concerns. On both counts it manages to overcome the old Marxist left-wing school of thought that did concern itself with equality, but didn't take cultural differences into account or the ecological consequences of industrial growth. Since the famous Brundtland Report (1987) and up to the Rio Conference (1992), the issue of the development of countries has become increasingly linked with environmental issues.

7. Two paradigms or cultures

Environmentalism often talks about the existence of two opposing cultures or paradigms in the modern world: the culture of industrialism and the culture of ecology. These two cultures possess a very different prioritisation of values. *The culture of industrialism* would be defined by the following elements: it would regard Nature as a source of unlimited provisions, and consider the human being as both master and exploiter of Nature. *The culture of ecology* would

be characterised by the fact that it views Nature as a source of provisions, but with a limited supply available, and regards human beings as both part of Nature and with the responsibility of managing Nature, yet always in the context of respecting its cycles. The *main values of industrialism* would be consumerism, quantity, productivity, a short-term perspective, linear growth and a general optimism about the future. The *basic values of environmentalism* would be a respect for Nature, quality, sustainability, a long-term perspective, an understanding of limits, and the importance of cycles.

8. Radical environmentalism and anthropocentric environmentalism

Within environmentalism there are two quite distinct extreme standpoints that can be adopted: anthropocentric environmentalism and *radical* or *eco-centric* environmentalism. *Anthropocentric* environmentalism believes that you must respect the atmosphere, as this is necessary for human life to develop and also ensures that all people on the planet can enjoy quality of life.

Eco-centric or *radical* environmentalism focuses on Nature rather than on the human species, and often looks at Nature from the point of view of Western dualism: the subject (the human being) and the object (Nature). A good example of this view of Nature can be found in certain Oriental traditions (Taoism, Buddhism), and in Native American traditions. From this point of view, what is most important is life on

Earth in general, and not just the human species.

9. A new ethical subject: future generations

One of the characteristics of environmentalism, which we have already mentioned, but which needs to be emphasised, is its concern for long-term consequences and for future generations. We need to secure quality human life for our future, given that our current way of life could greatly harm the generations that follow us. This school of thought is in direct conflict with the notion that prevails in the modern world, in which the present moment is the most important: *carpe diem*, let each generation of people sort out their own problems... In the world of business, everything tends to function from within a short-term perspective, and the political world is also ruled by the idea that short-term plans will gain more votes than the proposal of long-term measures that could be regarded as unpopular. This is why environmentalism talks about “sustainability” in relation to the issue of development. Sustainable development, according to the words of the famous Brundtland Report of 1987, is something “...that meets the needs of the present without compromising the ability of future generations to meet their own needs”.

10. A movement helped by history

One of the advantages of environmentalism is that it is a movement that is helped by the course of history. It is

becoming clearer every day that the model of development of the existing global economic system is unsustainable, particularly if all countries, not just the rich ones, were to become consumers of primary materials and fossil fuels, as current hypotheses suggest. But the need for each country to achieve greater development cannot be denied. In every publication that is in favour of adopting eco-friendly measures, we always come across examples that illustrate this.

For example: Japan currently consumes 10 million tonnes of fish and seafood. If China (that is ten times more populated than Japan) were to consume the same amount, which would be 100 million tonnes, that would be the equivalent of the current world total for fish catches per annum. If the number of car owners in China were equal to that of the USA, China would need to consume 80 million barrels of fuel /day, and compare this to the present global production which is around 75 million barrels/day. The consumption of paper in China is currently at 35 kg/person/day, and in the USA it stands at 342 kg/person/day.

Another very graphic way of explaining the non-sustainability of the system in which we find ourselves, is through the so-called *ecological footprint*. This is obtained by: “converting the consumption of all types of material resources into the area that would be needed to produce them, and converting the corresponding emissions of waste and pollution, into the area that would be needed to absorb them. Then, the total of these two areas that is measured

according to different people's levels and rates of consumption, can be compared with the environmental space currently available on the Earth to support them".

So for example, the ecological footprint of the citizens of Barcelona was 3.25 hectares/person. If the whole of humanity needed a similar ecological footprint we would basically need two planet Earths³. The ecological footprints vary greatly for different regions, according to the report *Living Planet 2002*. It's particularly interesting to look at the significant difference that exists between the Western European ecological footprint (which is around 5 global Hectares/person) and the North American one, (which is around 10 global Hectares/person), the latter being much higher. That is why some countries with a similar way of life, according to classic economic parameters, can have much more sustainable models than others. In regions such as Latin America only 2 hectares per person is needed and in the whole of Africa, only 1.7.

11. Biodiversity and its threats

Environmentalism believes in the value of biodiversity, and for this reason supports any measures taken to preserve it, whenever it finds itself threatened by humanity. Using a few examples, we will firstly see the reason why biodiversity has decreased in recent years, and why we see so many species threatened with extinction or species that have al-

ready disappeared in large areas of the planet. Secondly, we will look at the value of biodiversity.

A. At the moment we are seeing *signs of biological tension*: a decrease in fish stocks, the extinction of certain species, the deterioration of pastures, soil erosion, a deforestation of the entire planet... According to the *Living Planet Index of 2002*, from 1970 onwards there has been a 15% decrease in planetary species, a 35% decrease in sea species and a 54% decrease in freshwater species. At the start of the twentieth century, the total forest area of the planet was 5000 million Hectares, and by the year 2000, it was only at 2900 million Hectares. This decrease brings with it major economic consequences: an increase in flooding, and an increase in the rate at which sea levels are receding. And remember that 54% of the wood that is cut down in the world is used for cooking and heating purposes. (Around 2000 million people still cook using wood fires).

In many places, the erosion of pastureland has already had dramatic effects and caused a significant decrease in farming production. In Africa, earning potential has gone down by seven billion dollars, in North America it has decreased by 2.9 billion dollars, in South America by 2.1, in Asia by 8, in Australia by 2.5, and in Europe by 0.6⁴. Looking at this evidence it is clear that the economic repercussions are huge, particularly in poorer countries.

3. RALEA, F. - PRAT, A., *La petjada ecològica de Barcelona*, Ajuntament de Barcelona, 1998.

4. BROWN, L., *Ecoeconomia*, Centre UNESCO, Barcelona, pàg. 63.

In some areas it has resulted in a lack of vital food, which has caused the population to enter into a vicious circle of poverty (more illnesses relating to malnutrition, as well as a decrease in education...).

B. So, is biodiversity good? Since life began, species have become extinct, while others have evolved, and yet there have been no major consequences for the biosphere ... Nevertheless, recently the reason behind the depletion of animal species and the increase in species in danger of extinction has been the human race. I don't know if this human cause is comparable to the natural changes that have taken place with evolution, as human beings are now yet another species that have become highly predatory in biological terms.

One of the values of biodiversity is the fact that it preserves the survival of life and allows certain varieties to survive in the face of sudden climatic changes (for example, changes of temperature, droughts...). A wide genetic *pool* also increases the chance of survival for a species in the face of external changes. That is why we see a greater use of genetically modified products in agriculture. We use wheat, rice, and maize... that have adapted in a natural way to several different habitats, surviving at great heights, like on the high Bolivian plateau (at 5000 m), or in very humid places, or very dry places... In the face of the many uncertainties that lie ahead for planet Earth, it would be good to keep as much biodiversity as possible, as this is what can help us survive in the future.

6. ENVIRONMENTALISM AND THE NEED FOR GLOBAL ETHICS

Often, environmental problems go beyond the borders of a country, and demand global solutions— not just solutions linked to a certain area or country. Many proposals for global ethics (also known as, minimal, civil or planetary ethics) focus some of their aims on values connected to ecological issues. In today's globalised world, they acknowledge the futility of localised or territorial legislation, as many of the problems go beyond the artificial frontiers that exist between countries. This is seen in the fact that many companies move to a different location in an attempt to flee from legislations on ecological issues in their

own countries that they regard as being too strict, and they look for countries with more relaxed laws. Worldwide legislation is necessary on these issues, and sanctions need to be imposed if these legislations are not followed. There are many countries (including some within the EU) that have started to introduce laws on ecology, but they often lack the means to enforce the legislation, or the sanctions may be so insignificant that some industries just prefer to pay the fines. On a global scale, there have been many conferences that have tried to set up international agreements and made declarations with the best of

intentions, but countries did not subsequently include these measures in their legislative practices. One of the most significant of these was the Rio Conference, in 1992. Among all these international agreements, we can cite one such contract that up to now has been one of the few small successes in relation to the environment, and that was the Montreal Agreement of 1987. It succeeded in putting into practice a reduction of the emission of chlorofluorocarbons by around 70% between 1987 and 2000. The other side of the coin has been the lesser success of the Kyoto Protocol (1997) that was aimed at reducing the emission of greenhouse gases (global warming). This agreement was fraught

with difficulties, as developing countries felt they were being victimised compared with more industrialised countries. For environmentalists, the agreement was not significant enough, because the reductions agreed upon would be very easily compensated for by the intervening growth and development of new economies, particularly those in China and India. Furthermore, some of the countries that contribute most to the emission of greenhouse gases did not sign the agreement, as in the case of the USA. Nevertheless, we still need more global agreements on the subject of the environment, and above all, the political determination to translate these agreements into law.

7. THE DILEMMA: SHOULD WE CHANGE THE PARADIGM OR DO NOTHING?

The attitude of some people could be viewed as a lack of solidarity with future generations, because either they don't take the problem seriously enough or postpone its solution. We don't know if the scientists of the future will be able to repair the damage done or if planet Earth, as certain theories suggest, (such as the Gaia Theory), will respond to the aggression of the human race in its own way, and treat the human species as if it were a malign tumour growing out of control. In this instance, the Earth could eliminate the human species entirely or decrease its population through epidemics and catastrophes... Some more apocalyptic theories, believe that this is what is happening at the moment, and

that the victims are the world's poorest countries. The AIDS pandemic in Africa is starting to take on apocalyptic proportions. There could be many more human lives at risk if the ecological problem is not tackled, and it will not always be those with the most financial means who will be saved, but possibly those who are more genetically powerful. For example, certain scientists suggest that the white race, due to its lack of melanin, will ultimately disappear if there is a considerable increase in ultraviolet rays, due to the destruction of the ozone layer.

I would share the conviction that in order to tackle environmental issues *we cannot hope for a sudden change in the*

mentality of people, but we must make these people more aware, and thus create the foundations for setting up global agreements on ecological issues. We must also apply measures directed not only at solving the “end-of-the-pipeline” issue, but at creating a favourable climate for making the transition towards an economy that is more respectful towards the environment. The difficulty is that this new economy we create must have a global relevance, and so must not just deal with environmental issues but also be capable of dealing with the issue of poverty, or in other words, the issue of global inequality. If people believe that an environmental economy can be created for rich countries only, I don't know how these countries would be isolated from the common environment of planet Earth that we all share. Or maybe they're planning on the emigration of a chosen few to a new planet? In order to make the transition towards this new economy, progress needs to be made on many fronts:

Firstly, ethical agreements need to be made that can be translated into legislative measures.

Secondly, the work of educating people about environmental issues and the problem of inequality that was already started some time ago in primary and secondary schools needs to be continued.

What could possibly help this transformation as well as its acceleration would be *certain historical facts that could serve as catalysts*. One cannot deny that in the history of humanity some great ethical declarations arose out of catastrophes or extreme situations, for example, the Declaration of Human Rights made by the UN in 1948, after World War Two, or the Nuremberg Code on human experimentation... We don't want to predict or wish for environmental disasters, but these will take place and are taking place now, and they are sometimes the only way to make authorities react. We can find one example of this in China, where following the indiscriminate destruction of great forests in the Yangtze basin that caused the loss of 85% of its trees, huge flooding was caused that claimed the lives of thousands. Following this disaster, the authorities began to focus on ecological reforestation measures.

"MY WORLD, YOU ARE BEING CHANGED" (ATAHUALPA YUPANKI)

"In order to keep the biosphere inhabitable for another 2000 years, we and our descendants need to forget the example of Pietro Bernardone, a great textile businessman of the thirteenth century, and his material wealth, and instead begin to follow the model of Francis his son, the greatest man to have ever lived in the Western world... The example of Saint Francis is one that we as westerners should wholeheartedly follow, because he is the only Westerner... who can save the Earth" (A. Toynebee)⁵

Showing me statistics or describing the current state of environmental problems doesn't really bring the issue home to me; this idea was somewhat looked at in the previous chapter. However, I do want to begin by saying that this is a very serious problem, and that the threat of the destruction of the ecosystem by man is not some fantastical tale. Planet Earth is seriously ill and in refusing to acknowledge or become more aware of the problem, we can never cure it.

If someone wants to examine this aspect further, it is explored in Leonardo Boff's book (*Ecology: Cry of the Earth, Cry of the Poor*) and Ian Bradley's book (*God is green*), which was the main source and inspiration for Boff's book. They could also read the novel by Germán Ubillós, *Climatic Change*, which explains the scientific aspects of the environmental problem in narrative form. I won't be focussing on any of these points. However, as a preface to my theological reflection I will emphasise *why ecology has made us as humans into such a serious problem today*.

The fact that man has impoverished the Earth is nothing new, in fact this has always been the case. Almost one hundred and fifty years ago, Tolstoy wrote

at the very start of his novel *Resurrection*:

"Man, whether subconsciously or through his own self-centredness, has systematically mutilated the Earth since its creation; he has disfigured the countryside by cutting down trees; he has burnt fields and turned what used to be meadows into deserts; he has poisoned the atmosphere, filling the air with smoke and gas, he has poisoned the rivers and seas with lethal waste, he has made animal species extinct, species that used to run free in the forests or soar high above the Earth, in short, he has used science to sterilise his soul and erase from it the imprint of God".

These words, which seem to apply to today, are more than a century old. But

5. Quoted by L. BOFF on p.271 of the work that we mention in the text, and in reference to the daily newspaper *ABC*, 19th December 1972, pàg. 10-11.

there is a fundamental difference between our time and that of Tolstoy: the Russian novelist, in spite of his accusations, was convinced that *Nature was stronger than man and would be able to repair the damage that had been done itself*. What is new in today's thinking, is the realisation that Nature is not capable of repairing itself, at least, not at the same rhythm that human life needs it to, and so it is gradually being destroyed (or is taking its revenge, interpret it as you will) in the wake of so many attacks. This realisation has been brought about by studies such as that of the "World Wildlife Fund", that tells us that at the present time, humanity is consuming around 20% more natural resources than the Earth is able to regenerate. It also tells us that by

around 2050 this rate will be at over 80%. This is at the heart of today's environmental problems.

The theological reflection on this issue should begin by answering one important accusation. There are many people who believe the ecological drama we are currently experiencing has been caused by the notion of progress held by Western Christianity, and therefore blame this global calamity on Judeo-Christianity, focussing their accusation more specifically on the Biblical order from God to man to "subdue" the Earth. We will start by analysing this command and looking for a more holistic vision of the relationship between man and the Earth as seen through Biblical tradition.

1. BIBLICAL INFORMATION

1. The issue of Genesis 1

The phrase of Genesis 1:28 usually translates as: "Be fruitful and multiply, fill the Earth and subdue it". The Hebrew verb *kabash* means to set foot on, and has the same ambiguity in Hebrew as it does in English: it could mean to populate or inhabit, and it could also mean to tread on, or to dominate in a humiliating⁶ way. We're now going to look at both meanings.

a. Firstly, if to dominate the Earth simply means to *inhabit it*, then this se-

ems to allude to the previous verb used: to fill the Earth. This translation would seem to be confirmed by a phrase from Deutero-Isaiah (another Biblical author linked to Genesis 1 by his teachings on creation): "(He) who created the heavens, who formed the Earth, did not create it a chaos: he formed it to be *inhabited*" (Is 45:18). In Genesis this teaching also includes an acknowledgement that parts of the Earth are not always habitable⁷ or that God, on giving the Earth to man, leaves a certain area of indecision, so that man can decide himself on how

6. I refer to my anthropology *Proyecto de hermano. Visión creyente del hombre*, pgs.72-74 in which I comment on the duality of various Biblical expressions, such as: progress, work, alliance, and dominion.

7. On the high Andean plateau, for example, people understand the necessity of making an inhospitable place habitable.

he wants to inhabit it. However, man has chosen a way of inhabiting the Earth that goes against the Earth and ultimately against man himself. Maybe this is how we should understand God's instructions on not eating from the tree that reveals the difference between Good and Evil.

b. So we move on to the second possible translation of *kabash*. This second interpretation would justify the accusations laid against Judeo-Christianity. But in order to understand the Hebrew verb in this way, it would need to be taken completely out of context, and isolated not only from the command to inhabit the Earth but also from the whole of the second chapter of Genesis, which is written by a different author, and which is much more optimistic in relation to the Earth. Genesis 2 does not talk about the Earth in general, but rather about the *Garden of Eden*: its author writes that God put man in His garden not to dominate it, but to “watch over it and cultivate it”. Its language is much gentler than that of Genesis 1; but this is because the author of the first chapter did not view the whole Earth as being this paradise or Garden of Eden. Man's mission would therefore be to respect and cultivate the areas of the Earth that are fit for human habitation, and make inhabitable those areas that aren't.

It seems then that we should go with the first meaning, and that the meaning of the Hebrew *kabash* would be effectively expressed in the words of the love song by Raimon: “*treballaré el teu cos, como treballa la terra el*

llauraor del meu poble: amb amor i força... i obrirem junts el camí que la vida ens tanca desesperansadament: ens farem, serem junts”...⁸

In conclusion: if one sector of Western civilisation understood Genesis by its second translation, that is the fault of the West and not of the Bible: in fact, Eastern Christianity never understood it in this way. And this message is doubly reinforced if we do not take this verse of Genesis as an isolated piece, but rather allow it to be considered *in the context of the whole message of the Bible in relation to the Earth*. So let's have a look at what this context is.

2. The mentality of the Old Testament

The interpretation given to the expression “subdue the Earth” is confirmed by the Old Testament view on this matter: the Earth does not belong to man, but to God: “The Earth and all its fullness is the Lord's”. Human beings were not given the Earth but are responsible for it in the eyes of its Creator and owner. This is why the practice of resting the Earth every seven years came into being – this goes against our intensive cultivation of the planet that is draining its resources: “the land shall not be sold in perpetuity, for the land is mine, for you are strangers and sojourners with me” (Lev 25:23).

So Earth does not belong to man; he is responsible for it before God. He received it like a gift (“the Heavens be-

8. “I will tend to your body as the labourer tends to the Earth of my people: with love and strength. And together we will open the pathway that life in its despair closes to us. We will both make it, we will be together”.

long to the Lord, Earth was given to man”: Psalm 113), a gift that in some way could be seen like the evangelical parable of the talents. This comparison would only work up to a certain point however, as in the case of the Earth we are talking about a gift that “was made for us”: Earth is the planet with the highest concentration of Oxygen and Nitrogen, and the least amount of Carbon Dioxide (there is a huge difference between this and other planets); and it holds almost the same proportion of water as the human being does. It really is a gift, and it would be fitting to apply the phrase of the old matrimonial liturgy to it: “I give you a companion, not a servant”.

In contrast to this obsession with “impoverishing the Earth”, one of the great friends of the Earth, and a predecessor of modern day environmentalists was the prophet Teilhard de Chardin, who in his Hymn to Matter, desires “to embrace the universe in perfect chastity.” Today the problem lies in the fact that everything that seems to be pure or uncorrupted is ridiculed. From the point of view that we have “outlined” here in regards to progress, the concept of treating God's gifts with respect just doesn't seem to fit. This idea is also present in the Old Testament narrative about the manna in the desert.

The narrative in which God gave the land of Canaan to His people is like a parable of Him giving the planet to humanity, and with the same aim in mind. If man takes on this gift, he will be made unique, but he will also be made insignificant. In the awe-inspiring immensity of the universe, one small planet that he destroys will be a varia-

tion that will hardly be noticed. For this reason *man should be aware both of his importance and of his insignificance, in order to learn how to treat the Earth.* This is what I see expressed in Psalm 8, which has also been used in reference to the theme of ecology. The Psalm is a song to man's greatness. “Thou hast given him dominion over the works of thy hands” etc. But this is an importance that inspires gratitude from the perspective of man's insignificance: “what is man that thou art mindful of him?” What it seems to tell me is that if we eliminate God, all the elements of human duality (greatness - insignificance, etc), become reduced into one single element. And in that case, we are heading for disaster.

From these reflections on the Old Testament we can reach a few conclusions:

a) Biblical mentality should not be blamed for environmental problems, but rather we should blame modern individualism and the Roman idea that viewed property as “*ius utendi et abutendi*” (the right to use and abuse).

b) The part that Judeo-Christianity has to play in this thus becomes reduced to a certain disenchantment of the world: in Biblical mentality there are no such things as sacred stars or “sacred cows”; what is sacred is human life, and in the famous words of Jesus, the sacred (the Sabbath) “was made for man”. So I will not talk about recovering the “sacred” character of the Earth, as L. Boff does, but I will talk about recovering respect for everything that I am not, as well as accepting my own limits. And here is, in short, the way that humanity can progress on the Earth, as well as the Biblical affirmation that man has

abused this possibility. *But we should not look for the solution in some new way of making the Earth sacred, but instead by being aware of the fact that the Earth is a gift that was given to man.* And perhaps we should also realise that, if the view that God as a giver of life is lost, we will be heading for the self-divinisation of man. In our material progress and our technological dominion over Nature, this could all change from being seen as our obedience to a divine being, to being seen as the result of the decision and will of man.

We can also detect a certain “sanctification” of earthly matter, not so much in the Old Testament, but in the New Testament and through Christology. Let's have a look at this now.

3. The universe in the New Testament

Up to now we have spoken of the Earth as being a creation of God. But in addition to this, through the Incarnation of the divine “Word”, all creation and all matter became sanctified, and are called to participate in the divine destiny of humanity. The *corporal* resurrection of Jesus and the importance of the Eucharist play an important role here. Let's say a few words on each of these matters.

1. The Resurrection of Christ is behind many reflections in the New Testament: creation shares the destiny of humanity (Rom 8:19) and the universe in its totality has become sanctified through Christ (Ephesians and Colossians). Jesus Christ is head “of this totality” (*ta panta*), and not just head of the human species. “His will...” (Eph.

1:10) and “in Him all things hold together” (Col 1:17)...

This teaching, which raises many questions if you consider the possibility of other inhabited worlds, is now a guarantee of the inviolability of our planet. It also gives meaning in another way to the Gospel of Matthew: 25: what you did to creation you did to me, because creation is also waiting for “the revelation of the sons of God” and is now “subjected to futility, not of its own will but by the will of him who subjected it”, although it cannot be greater than the human being (Rom 8:19ff).

2. This also affects the symbolism of the Eucharist, in relation to the significance of the bread and wine, which is now not just a sacrament of human communion with God. It is also a divinisation of matter, which is what Teilhard sang about in his famous *Mass on the World*: all matter is destined to become transubstantiated into the body of Christ.

Among all these texts, the letter to the Ephesians was most influential in early theology: “to unite all things in him, things in heaven and things on earth”. Saint Irenaeus, who developed this concept in the second century, speaks of recapitulating “in” Christ or “towards” Christ. So we are talking about a dynamic concept that must be thought of in an evolutionary way. Teilhard de Chardin, who has great similarities with Saint Irenaeus (although he probably wasn't aware of him), focussed on this dynamic character with his characterisation of Christ as the “omega” of all evolution.

From this perspective, we can then assume a certain *Christological dignity of the Earth that should influence man's*

relationship with the planet. It is not just a question of what we might imagine about the future, because what we call “Heaven” is not just Heaven, but rather “the new Heaven *and the new Earth*”. This can also be applied to the present day: although man is master of the Earth, he should not see it from the Roman point of view of owning property which we already mentioned.

3. Although it doesn't specifically mention the Earth, the Johannine writings also provide the elements that L. Boff sees as necessary in relation to environmental issues, that is “*a change of paradigm*”. Later on we will look at the definition of God as Life in relation to this point, rather than God being seen as a distinct Being. I would like to point out here that the writings of the fourth evangelist were born into a world that was lin-

ked to the idea of “gnosis”. In John's Gospel, terms such as knowledge and truth abound; but for its author, the true gnosis is love. And he demonstrates that this love extends to matter (“flesh”) when he talks of the antichrist as being the person that claims that the Saviour did not come to Earth “in the flesh” (1Jn 4:2). Science should not forget this. And neither should theology as Jon Sobrino reminds us when he talks about “*intellectus amoris*” alongside the classical definition of theology as “*intellectus fidei*”. So Boff is correct when he says that the ecological issue requires “a change of paradigm” as well as a change of attitude from ourselves. What should be discussed is whether this change requires us to abandon so-called “anthropocentrism”.

This is what we will examine in the following section.

2. ISSUES OF SYSTEMATIC THEOLOGY

1. Anthropocentrism and a change of paradigm

In my opinion, the great difficulty we have with this issue is that we live in a culture that encourages immediate satisfaction and memory loss. And environmental problems are all long-term issues. On another issue, if we don't show that much solidarity with people today, how are we going to show it towards the people of tomorrow? In this case, so-called postmodernism has played a negative role, because although it claims to have abolished all these “great fables”, it has managed to keep one of them intact: that of technical progress. Since

science and technology have been made sacred in this way (and I underline this point: not only supported and applauded, but *sanctified*), it seems that everything else has become subservient to it, and that this alone is capable of solving all our problems. As if it were God.

On the other hand, and going against what Leonardo states, I don't believe that the change of paradigm necessarily means we have to abandon anthropocentrism in order to establish an equal relationship between man and Nature. In the previous section, J. Carrera also spoke about a change of paradigm, but without denying the need for anthropo-

centrism. And Boff himself, after dismissing the validity of anthropocentrism, accepts the scientific school of thought on “the anthropic principle”. But is this not just another form of anthropocentrism?

The fact is that according to science, evolution seems to have been “programmed” in order to make man's existence possible at the end of the evolutionary process. In Genesis too, the creation of man takes place on the last day and is narrated with a particular solemnity: of all the creatures, the human being is the only one to be made in God's image.

Denying the validity of anthropocentrism simply because man has abused it, seems to me as if it would be denying the image of God in human beings, because man wanted to “be like God” (Gen 3:5).

1. A clarification of the ideas

Before we agree or disagree with this idea, it's important to have a look at what we mean by anthropocentrism. I'm going to focus on the following definition given by Boff:

“What does anthropocentrism mean? It means that everything, in 15000 million years of history, has its reason for being only because of the human race, men and women. For this reason, everything culminates in humanity. Nothing holds any intrinsic value; nothing possesses alterity or meaning without it.

“All life is therefore at its disposal so that man can fulfil his desires and plans. They are his property and belong to his dominion. He feels above everything and

not *alongside or with* everything. He imagines himself as an isolated and unique race, separate from Nature, as well as above Nature. His arrogance means he doesn't need to respect the planet.

“Yet he forgets that the universe and the Earth are not of his making or of his will. He was not present at its birth and neither did he define the course of time. He did not create the primordial energies that played a role in the evolutionary process and that are at work in his own human nature, a nature that is only one single part of the universal nature” (L. Boff, *Op. cit.*, 93-94).

I have structured the quotation into three paragraphs in order to make it clear that unlike Leonardo, I do accept what is said in the first paragraph, and in this sense, I support anthropocentrism. However, I do not support the definition of anthropocentrism in the second paragraph and so would completely agree with Boff on this point. But it doesn't seem to me that what is said in the second paragraph should *necessarily* follow on from what is said in the first paragraph. And I think that this is clarified in the third paragraph that I would again agree with; I do think that his point of view does not necessarily imply a total negation of *all* forms of anthropocentrism, but rather that we should be making a distinction between two ways of accepting the centrality of humanity in God's creation: the first way is *Promethean anthropocentrism* that thinks it is self-made and ignores everything that is so rightly pointed out in the third paragraph. The second way is *received anthropocentrism*, that is freely given, and similar to the relationship

we were looking at earlier where man views the Earth as a “gift”, a relationship that does not imply man's self-affirmation but rather man's responsibility. There are two observations linked to this:

a) *The rejection of anthropocentrism is valid in relation to God, but not in relation to Nature.* I believe that we can see the differences between the anthropocentrism that belongs to Western Modernity and the Biblical form of anthropocentrism here. Biblical anthropocentrism is radically centred in Christ, and in this sense, man is not entirely dominant, God is. While our modern form of anthropocentrism is grounded in a desire to have absolute power, it degenerates into a form of anthroposolipsism or individuocentrism. Its underlying principle is not a global form of thought, but rather an individualist way of thinking that feels threatened by any need for the consideration of others, and desperately needs to be replaced by what certain schools of thought, that support an economy based on solidarity, would call the “we rationality”.

One could describe this individualist form of anthropocentrism in the same way as Karl Marx described the bourgeoisie in his Manifest of the Communist Party: on the one hand, we are overwhelmed by humanity's impressive successes (“(he) has created more massive and more colossal productive forces than have all preceding generations together”); and on the other hand we are hurt and shaken when we realise the human price of this success (“it has drowned the most heavenly ecstasies of religious fervour in the icy wa-

ter of egotistical calculation. In the place of the numberless indefeasible chartered freedoms it has set up that single untouchable freedom - Free Trade.”).

Now let's compare Boff's definition that we have just analysed with a phrase from the Spiritual Exercises of Saint Ignatius: “the other things on the face of the earth were created for man's sake and to help him in the following out of the end for which he was created”. Here we encounter a very sharp understanding of anthropocentrism, which fits in with the birth of what we know as Modernity. And yet he is talking about an “obedient” form of anthropocentrism that is far removed from the definition offered by Boff. The problem is that man does not want to be obedient towards anyone, not even towards the very Source of his being, the source of Life and the ultimate objective of humanity. So Saint Ignatius' form of anthropocentrism therefore becomes the anthropocentrism described by L. Boff.

b). Another observation. The Promethean form of anthropocentrism that we rejected earlier should actually be called “androcentrism”: as we already know, the Greek word *anthrôpos* (man) is an inclusive word that signifies both male (*aner*, whose genitive is *andros*) and woman (*gynê*). True *anthropocentrism* should therefore not exclude others, but instead welcome alterity. And yet this is not what has characterised man's relationship with the Earth. For this reason, I believe that man's relationship with the Earth should be compared with what we would call in sexual terms, a rape. Let's look at this further:

A woman's body offers "beauty, vulnerability and fertility" (Elizabeth Johnson). On the first point we are talking about a desire for possession. The third point suggests an inferiority of the male, as although he is necessary to create life, he is incapable of bringing life into the world himself. The second point is where the male asserts his superiority through physical force and comes from his desire to reconcile the two points previously mentioned. Rape is therefore an act of possession and humiliation, and demonstrates a profound lack of respect. And this is exactly how man has treated Nature.

2. *Some consequences*

What I referred to as "obedient anthropocentrism" in religious terms, or what I could describe in more secular terms as a form of anthropocentrism that does not exclude others and embraces alterity, has a series of very clear-cut consequences. Looking back at this theme of man being made in God's image, the superior dignity of the human being is found in the fact that (although he is part of Nature, and is "made of the Earth" = Adam) the law of "survival of the fittest" that predominates in Nature does not apply to him as much, or in other words: the Darwinist principle that requires human sacrifices. As regards human beings, we are looking at the very image of God and this cannot therefore be sacrificed (although humans will sometimes sacrifice themselves through deep service and love).

This helps us to understand another point on which Boff was correct, and it is perhaps the most important point of the whole issue: *the environmental pro-*

blems regarding our preservation of the Earth, cannot be separated from the issue of justice or the satisfaction of its victims. "Cry of the Earth, cry of the poor" is a perfect summary of the problem (which I would actually put the other way around). Saint Francis of Assisi is the patron saint of environmentalists and everyone quotes his words on this issue. But as I. Bradley rightly points out, Francis only learnt to call the sun, moon, waters and the Earth his brothers *after* he had learnt to call the *lepers* his brothers. The World Council of Churches was very expressive on this point, and from one of its first declarations (made around the 1970s) developed what was to become a central motivation for action: "Justice, Peace and the Integrity of Creation".

And this also brings us to realise that in the human species there is no great desire to save the planet, just as there is no huge desire to bring about justice and eliminate poverty. In both cases we deceive ourselves with gentle slogans: we talk about "creating wealth" in order to end poverty and we forget something we know only too well: that our economic system is only capable of creating wealth in a concentrated area, and not distributing it evenly. In the same way, we use the slogan "sustainable development", confusing growth with development. But sustainable development has nothing to do with slowing down our rate of economic growth: the so-called Net Photosynthetic Product outlines the limits of the amount of energy the Earth is capable of providing; and our rate of growth very much surpasses these limits.

Nevertheless we take refuge under the slogan of sustainable development in order to continue this growth without stopping. We forget that rich countries need to slow down, because if everyone grew at the same rate as them, the planet would simply be ruined. And yet this doesn't matter to us. Or rather: we continue to be part of a system that causes us to ignore these issues, because what we perceive to be a threat (which isn't always the case, as in the instance of our need to slow down our rate of growth), causes us to react against it, with no regard for other people or by considering them as the collateral damage which is inevitable according to the rule of "every man for himself". Consider the examples of the USA, England and Thailand – they continued to export contaminated blood, meat from cows suffering from BSE and chickens with "bird flu", just so they could avoid economic loss. However, this is not anthropocentrism but rather individualism or more accurately, "Pluto-centrism": the centre of creation is not the human being, but rather money, the classic idol that requires human sacrifices.

3. In summary:

Adopting a change of paradigm seems to imply the need to abandon the notion of progress, more specifically understood in this situation as technological progress. Our desire to produce more, in order to avoid sharing what we

have (and forgetting the fact that economy is the science of scarcity), has meant that richer people have exhausted the Earth's resources. They have not given the planet a chance to recuperate, and have abused it with pesticides and fertilisers, creating problems for which we cannot yet provide clear answers, such as the issue of genetically modified foods⁹, as well as continuing to export products that we know are harmful to us. This leads us to solve the crisis using only temporary measures, instead of attacking its very causes. It also makes us wonder if the theologian of the sixteenth century was actually right when he wanted to classify original sin as the exploitation and seizure of the Earth. Our environment and the struggle for justice are therefore inseparable. And the major difficulty of this fact pivots on the notion that *taking the necessary action would require sacrifices from us with nothing in return*. This would be a good deed with no possibility of reward, because the catastrophe we are trying to avoid would not affect us, but would instead affect future generations. Unfortunately this sense of goodwill does not form part of the current pattern of development that the planet has adopted.

2. AIDS and the environment

One concrete example of this predatory mentality we possess and this pattern of behaviour that we need to change can

9. The voice of Science can sometimes seem like the unequivocal truth, and is strengthened by the fact that it has the possibility of becoming a universalised opinion. But the problem also lies in the fact that scientists are individual people. In the case of genetically modified foods, one can read arguments both for and against, depending on the interests of the person who is arguing the case. And this example is not unique. We are not capable of recognising that there is still no clear scientific stance on the position, and that the environmental risk genuinely exists.

be found in the AIDS pandemic to which J. Carrera also referred. To my understanding, this is a real environmental problem.

This modern conception of sexuality as a mere object of consumerism, leads to a mentality of wanting this object as much as possible, and with no law to guide people other than their desire. When one reads the descriptions of Dominique Lapierre's famous book on AIDS (*Greater Than Love*), we see that these damaging attitudes can lead to such a serious decay, that the law of cause and effect in relation to Nature no longer functions in a linear way.

We have another example of this attitude taken from a personal letter, in which the protagonist looks back over their past on finding themselves facing issues of sexuality in relation to their own children in the present: "you already know about how liberal we used to be in our day, and although I might have slept with so many people to the point that I can't put a name or even a face to some of them, when you look at it from a mother's point of view, it's different. I worry about the model of sexual behaviour... that doesn't have the added value (or excuse) that it had before, when in those days it represented a struggle against repression."

On making these comments, I would like to make it clear that in relation to this matter I would be in favour of the use of condoms. Furthermore, I do not understand the position of the Vatican on this matter, as it seems to be contradictory when you take into consideration the classical principles of moral theology on the "lesser evil". But, that said, I must add that supplying condoms

is not the *whole* solution when dealing with such a serious problem, particularly when one condom costs a whole day's wages in Africa (yet again, an example of Pluto-centrism). A change of paradigm should also play a role here. But at the last world summit on AIDS, the Minister for Health encouraged young people to enjoy "the freest and most agreeable" sexuality possible. It beggars belief that words like self-control or respect remained absent from this speech. The message of that great Korean film (*Spring summer, autumn, winter...*): which was that *desire creates a need for possession and this then destroys that which we love the most*, doesn't seem to fit in with any current social trends. Neither does it seem to fit in with our relationship with Nature. And this is how I wanted to use this example.

However, I am not writing this in order to dictate moral norms. I want to make people see that *the change of paradigm that Boff was referring to is much greater and much more essential than we realise*.

3. God is Life

One useful element to bring about this change of paradigm would be to change the notion of God as a distinct Being, and use the language of Michel Henry when he talks about God as being Life. I am in no way dismissing the reasons for which God has been called a Being: this was a way of demonstrating His relationship with human understanding. The latter was able to show itself as being open to the idea of this being through its capacity to ponder on great

concepts. But herein lies the weakness of this description: “being” is a notion that is too abstract because of its transcendental character (such as other vague words like “thing”, or “something” etc). When we characterise God like this, we take away His supreme concrete presence: this is the great limitation of our way of thinking, in that it can only define something by taking away its very proximity (in other words: by making it more abstract). And God, through His absolute uniqueness, should not be the object of any abstraction.

This danger is averted when we talk about God as Life or as Life in all its Fullness. In spite of its formality, life is a notion that has more real presence than the idea of an abstract being. In fact, eternity is described in scholastic terms through its relationship with life. And God is eternity¹⁰.

The Bible is also much closer to this way of thinking: according to the first letter of John, the Word of God is “the Word of Life”, and “that which manifested itself to us is Life”, a notion I already looked at in the second chapter of this section. Furthermore, life is normally in the feminine gender in most languages (particularly in Hebrew and Greek, which are the languages that concern us the most), so using this word to describe God will therefore bring about a certain balance, and compensate for the often patriarchal terminology that is used to talk of God.

In reality, God is life in its fullness, absolute, total and necessary, from

which arises the age-old question of existence: why does life exist instead of nothing? A question that one can only answer by making a parody of the famous verse of A. Silesius about a rose: “Life exists without a reason, it lives because it lives” etc.

Life is the real “Source of all”. And to this formal characterisation of God as life and as the source of life, we can add the same comments from the Johannine writings explaining that the essence of this life is love. Life that is given through love is such a maternal and feminine concept (among all the analogies used in our language to describe God) that in a certain sense, the definition of Mother would be more fitting than that of Father.

In this way, it is easier to understand that God (who is Life) must have a “logos”: because *to live is to be aware that one is alive*. This perspective does not look at the notion of existence as being a transcendental one¹¹. Life is very aware of itself. And this primary duality (I who am alive, know *myself* to be living) is not the sign of a division, because in the Fullness of Life, being aware that one is alive ultimately leads to an *enjoyment* of life, that unites one's consciousness to one's life. Life, awareness and an enjoyment of life are three “co-eternal, consubstantial and co-equal” elements.

The same can be said about them as was said about the Trinity in early theology. If I have succeeded in clarifying this point, it will be possible to move on

9. Look at Boecio's definition of eternity: "the perfect possession, complete and simultaneous, of a life without end".

to a new stage in our discussion. So let's proceed.

If Life is something that is *both full and necessary* (to such a point that we sometimes talk about living life to the full, although on this point we are really deceiving ourselves), one can then understand why the creation of a *limited and fleeting* life would be a problem. God is able to create life (that is finite and experienced) giving something of Himself, but at the same time, "holding something back" so as not to take away from or make this incomplete life futile. He holds something back, while at the same time feeds and sustains the life, like a mother feeding the foetus she is carrying inside her, without the baby even realising. "Life of my life" said one famous line of Lope de Vega.

And also: God can give a dynamic of growth to this precarious life (which doesn't exist "without a reason", like Life in its fullness). And this will be a coherent dynamic because Life in essence is a communication of God, and Love is God's gift. Here in short is the theme of spiritual progress and of God's image in man.

In this more philosophical context, I would like to insert a personal meditation, which I hope will breathe "life" into what I have been describing in a speculative and abstract way, and which I wrote in Montseny ("*mont assenyat*" or 'mountain with good sense', as I prefer to call it, in

the face of our extreme behaviour [or *hibris*]).

"I look at the orchestra of greenery and trees at Montseny. I feel that they are elemental aspects of life, and for this reason, they are a veritable gift to my senses and my soul. I remember that on other planets, Mars, Jupiter, and the moon, these type of scenes denoting the harmony of life do not exist: they are all desert, lava, basalt, stones...

"This contrast seems impossible and absurd to me. You desire and affirm that there must be the same sights on other planets as well as our own. After all, our planet is not the centre of the universe around which everything else revolves, like the ancients believed. Ours is only one more planet that circles the Sun like the others. But on the other hand, there are so many "coincidences" (and minuscule combinations) that happened in order for this complex and perfect life to occur, life is so astronomical and is repeated so many times, that we end up wondering how strange it is that life doesn't exist on other planets, as opposed to it existing on just one planet.

"Actually, the Life Source, or Mother Life has been very generous towards us as imperfect living human beings (imperfect in relation to Her, although much evolved in relation to other living species).

"So I go on to think about the journey of the human race on this planet, which

11. The presocratics hinted at this when they spoke of the link between *thinking and being* (in the original Greek verse: "to de gar autó noeîn esti kai einai"). Aristoteles abandoned this line of thought in order to speak of being as something that (although in many different ways), can be said *about everything*. But the presocratic principle is more fitting to the notion of life than it is to that of being: it draws a link between living and thinking. However, in this case too, in relation to more primary forms of life (and given the continuity that exists in the scale of living things), self-awareness becomes reduced to *movement of the self* (or "motus immanens" as the classics defined life).

has covered hundreds of thousands of years, from the discovery of the first planets and their orbits, to our gaining knowledge about the first plants and trees, or the appearance of agriculture.... up to today and our current command of the planet. Undoubtedly this human trajectory has been both amazing and frightening. And yet what is most hurtful is the fact that this trajectory has been beset with blind ambition, expropriation and a lack of human respect for Life and for the living environment, which is the reason why today's ecological problems have emerged.

“So I come back to that Biblical phrase of Genesis 3:5, and paraphrase it: in reality he who was made in the “image of Life” wanted to be “like Life itself”. And this is why all life and all stability finds itself profoundly threatened today.”

Perhaps this might be a way to better understand the serious and respectful attitude that the whole of Nature deserves, however incipient a reflection it may be. To destroy “things” or “be-

ings” is a much less challenging expression than to destroy life itself. Using this last term, it is much easier to understand that we are affecting something that in a sense belongs to us but at the same time, is worthy of respect in *its own right*. The environmental problem is above all a biological one: it is not simply “our dwelling place” (*oikos*) that is called into question, but something that is of great internal significance for us. And for this reason, without leaning towards pantheism, idolatry or mystification, we can share the desire of L. Boff to move towards a paradigm that sees us living in communion with Nature.

Therefore, the various reflections within this chapter lead us to the understanding that *the issue of ecology has a lot to do with Life itself and with a love for it*. What we call an “ecosystem” should be cared for and respected because it is life ..iving. And if Life is one of the best ways of describing God, then ecology must be closely linked to God.

CONCLUSION

Years ago, in a study made by our Centre on globalisation, I spoke about “imperative technology” as being one of the negative cultural roots of our time. I was referring to the claim that, if something is technically possible, it should be carried out, regardless of its moral consequences and without stopping to look at the short and long-term consequences it might lead to, arguing that, if these consequences are negative,

by that time we should have found a way to solve them.

While I would agree that science has made great progress through a system of “trial and error,” we need to realise that in more than one instance, when we look at the damaging consequences that have taken place as a result of progress, it is now no longer possible to take a technological step backwards. This is because we are now totally affected by

and reliant on this progress, and have literally become “addicted” to these so-called positive steps made in technology, a dependency that is very similar to that of drug addiction.

The same should not occur in relation to environmental problems. But I fear that it will happen if we don't manage to “change the paradigm” and keep a watchful eye on unscrupulous people. Science is tending towards thinking that the environment has already survived other ecological catastrophes. In each of these disasters, what has been irretrievably lost is not the Earth's ecosystem but rather a few selected species (the marine saurian, for example). The Earth is wounded and manages to recover over a period of millions of years, in order to renew its evolutionary process. Some scientists believe that if a new ecological catastrophe were to occur due to man's mistreatment of the Earth, the planet would not completely die, but *the human species* would be wiped out. Again, over millions of years, a new species would emerge, capable of knowledge and love (and in this sense, similar to man, so that some have called it a new humanity).

And so we return to our starting point. But still we know very little about how to address the issue: the only value of our discourse has been to confirm that in relation to the environment “*res nostra agitur*”: we are calling not just the environment into question, but also ourselves.

Other questions that arise from this reflection seem pointless to me. What would be the theological implications of man's extinction, having destroyed the

ecosystem that had given him shelter? Firstly, there are reasons to hope that this will not happen because for God, the existence of just ten righteous men of Sodom would have saved the city from destruction. And we can also look at what Saint Irenaeus said: *for good people* (referring to Christians with an optimism that characterised the early Church), *creation will not be destroyed*. This means that environmentalists, and friends of the Earth can save the planet, even if their struggle seems like David versus Goliath.

Secondly, we still have another alarming question: if the human species were to disappear like we said, what would become of those human beings who have already died in the Lord and who, according to our incomplete and temporal perspective, are waiting for the fullness of Christ's Kingdom, when His Creation has already been destroyed? Will there be an Incarnation of another hypothetical “human” species (or a substitute for humans)? Should we see in the Incarnation of the Word into human flesh, and in the eternal presence of the humanity of Christ in the Trinity, a guarantee that this will never happen?

Naturally we cannot know this. But again, it is not the answers that are important here, but rather that these questions remain alive. These type of questions really place the importance of the issue at the fore: *the environmental issue is not a game or solely a concern of tree-huggers, and nor is it, as too many people tend to regard it, a threat that will resolve itself*. It is a question of “life or death”. And this is the best way of expressing it.