

The moral duty of states and citizens to preserve the sustainability

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Abstract

Taking into consideration that formulating what the nature of things must be – ethics – is a Philosophy task, this work looks for interdisciplinary keys to establish the environmental must-be. To do this, it analyzes some problems which affect the environment as a “natural” and human space. Where can we find the economy, science and politics key? Although the reflection has an ethical origin and seeks political responses, it will address all the concept of sustainability.

Key words: Ethics. Politics. Environment. Sustainable development. Economy.

Resumen

El deber moral de los estados y ciudadanos de preservar la sustentabilidad

Considerando que formular el deber ser de las cosas – la ética – es una de las tareas de la Filosofía este trabajo busca claves interdisciplinarias para establecer el deber ser ambiental. Para ello analiza algunos problemas que afectan al ambiente como espacio “natural” y humano. ¿Dónde hallar la clave en la economía, la ciencia, la política? Si bien la reflexión tiene un origen ético y busca respuestas políticas, se detendrá sobre todo en el concepto de sustentabilidad.

Palabras-clave: Ética. Política. Ambiente. Desarrollo sostenible. Economía.

Resumo

O dever moral dos estados e dos cidadãos para preservar a sustentabilidade

Considerando que formular o dever ser das coisas – a ética – é uma tarefa da Filosofia, o presente trabalho busca chaves interdisciplinares para estabelecer o dever ser ambiental. Para tanto, analisa alguns problemas que afetam o meio ambiente como espaço “natural” e humano. Onde encontrar a chave da economia, da ciência, da política? Ainda que a reflexão tenha uma origem ética e busque respostas políticas, se deterá sobretudo no conceito de sustentabilidade.

Palavras-chave: Ética. Política. Meio ambiente. Desenvolvimento sustentável. Economia.

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*Should not we admit that much of what we call
production is indeed extraction?*

C.Sauer

*The thousand years led the Chosen People ...
to return to the Promised Land.
It took only 52 years to convert land
milk and honey in a country of rivers with foam,
carcinogenic waters y moribund fish*

S. Kiley

Philosophy has its origins in two parallel missions: one is to describe the existence, that is, to deal with the to-be of things, and the other is to state the must-be. We do not always consider that the to-be, what exists, what happens in our surroundings and within ourselves *must be* that way. In addition, almost every time we hear that the world we live in, the environment we built throughout these last centuries, is not the one in which humans can achieve their plenitude. That is the reason why this work will develop:

1. some controversial issues related to the environment, comprehending it as the world around us with all its problematic and;
2. some reflections on the must-be, that is, on ethical-political guidelines from which resolve these conflicts are resolved.

I will to avoid any catastrophism and pessimism, as well as falling into clichés that make ethics the theme to which all resort to tranquilize their consciences, but that does not require changing behaviors. Also I will try to avoid utopia. Although it may not be out, I will stick to concrete situations and to ethical-political responses. I will not dwell either on debates regarding the primacy of man over “nature” or vice versa, not only because these discussions would involve another type of development, but also because I consider that a pointless discussion when what is being considered are political decisions that affect lives and community and that in it is necessarily involved “nature”. This is a fundamental part of human life, not something added and oblivious to it. The “natural” world (space shared by men, animals, plants, land, spaces where different species develop in relation to their common origin, the earth) is the habitat of man, that is, his crucial condition of life. Man does not live alone, reason why he cannot ignore men or the world to which he belongs. The interests of “nature” and the man should be discussed simultaneously.

The responsible

Assuming conflicts that affects the world we inhabit, it has proliferated a number of “experts” who we trust to be those who know and those who will communicate the *logos*, the common house we live, that is, they will have the ultimate word in ecology¹. To resort to experts means to search for solutions in science, however, the first response to problems that emerge from the application of technology and biotechnology for the world we are part of, must be ethical and not scientific, in other words, it should emerge from the commitment and responsibility of all who inhabit this world, besides the experts.

Mae-Wan Ho affirmed in 2000, *our intention is not that stop the search, but she no longer made between four walls, back to the society, and only in the interests of large corporations. We scientists should spend between six and twelve months with social organizations selected by us before undertaking any research project. This would help us to include the needs of society in our scientific goals. We scientists should keep an intense discussion about how we can be useful to society, before we were so busy speculating about the commercial potential of the first result of our work*¹.

The answers of experts in ecology are often contradictory when it comes to deciding the limits between benefit “nature” and human. It leads us to ask whether if it is more appropriate to consider what to do is not what is affected by the use of technology: the inhabitant of the increasingly polluted cities, is who lost all his possessions and lives in constant jeopardy by floods caused by a poorly care towards earth^{2,3}, or who is sentenced to infertility or sees his sick children by coming into contact with certain fertilizers or herbicides such as glyphosate⁴⁻⁶ and organochlorine pesticides^{7,8}.

They are the marginalized created by a society organized on liberal capitalist bases who can better understand what it means to be forced to survive at the expense of not only the future but also the present. It is true that you can measure and design the damage to the future with greater accuracy by the expert or scientific knowledge, so are the ordinary citizens, people undergoing permanent aggression by an increasingly hostile world, in where they feel themselves more and more as strangers, who may value more completely the problems and possible responses.

We are the citizens who can differentiate between “natural” disasters and those caused by the greed of man, by the use of increasingly refined weapons or “harmless atomic experiments,” for example, or by practices that extinct ancient species, or biotechnological transformations that lead to the destruction of biodiversity and whose consequences in the short or long term we ignore in the correct science, but intuited by observing our surroundings. Science can give us some evidence that, against the current practice, it should be considered in light of the problems of the people; and science may also solve some problems, many of which it created itself, but the fundamentals are not under its capacity.

Identifying problems and choosing solutions as affected human beings, as laymen, implies first the individual and collective responsibility in its existence, in its persistence, its future projection and secondly, to act politically from the solidarity, and *putting the common good above individual and partisan interests*, with the conviction that good for everyone necessarily means good for the individual. This is precisely what bioethics increasingly demands, not only from bioethicists, but from anyone: that as society, we are able to be conscious of our right for equal treatment in the midst of differences and of our obligation to participate in the different instances of decision that affect our present and future. Policy decisions should be grounded on ethical principles, but its materialization must take into account phases, contexts, conditions sometimes unavoidable, however, this should not prevent the common good is above any individual interest.

With respect to this issue, it is cited Max Weber, who differed ethics from the conviction that governs in the individual level and from the action that should be taken into account, the consequences that depend on the context. This distinction does not imply that Weber has stated that acting strategically implies on forgetting values or ethical principles⁹. As part of a community, everyone must identify, denounce and combat the law and ethics towards those who hold power in society, who act for themselves and their own interests, from not solidarity but individual principles of action, which voluntarily ignore their responsibility regarding the needs of people.

It must be remembered though that in a democracy politics is not just a matter of the powerful and governments, but it's specially a matter of

citizens. Undoubtedly, governments face tensions between the interests of corporations, companies, stock exchanges, and the demands of their population, and with the support of their citizens government should certainly consolidate strategic agreements, as advised by Apel¹⁰. But it is the duty of citizens to ensure that these agreements are concluded under the warranty of not triumphing private interests, but the common rights. Given the diminished power of national states, the citizenship power must be widely considered today as possibility of a global society. The Internet can be a good path to achieve this. But it is important through supporting some principles such as the defense of human dignity, that is, the respect for equality to all humans and the recognition of nature as also possessing rights.

The unquestionable political outcome will be the one in which all sectors of population will participate, and in which, above all, equality have been respected for the common benefit, including the benefit to the biosphere, under the assumption that what is good for everyone is good for the individual. *Prevails human dignity and equality, recognizes the value of nature as itself, will be defending the truth above the power and solidarity above profit.* It is not acceptable to separate, in the exercise of power, the responsibility of conviction, leaving the door open for the states to be able to claim supranational constraints, economic games, global circumstances, ignoring the needs of people and earth. It is conviction together with responsibility where we find truth and justice, both in the public and private contexts. There are the experts, the people, the individuals, and especially the states, who should take responsibility to maintain a world where everybody can walk towards future.

The economy

Who creates the exponential growth can last forever in a finite world, a madman or an economist.

Kenneth Bouldign

No doubt we face a problem of ecological balance, that is, a problem in which reason must seek for answers for that the house, the home (*oikos*), survive with all of those who populate it. This affects not only Latin America but also the entire planet, and the question is, therefore, if whether the political and economic responsibilities should be equal

ly shared to all. In 1968, Gunnar Myrdal, Economic Nobel Prize in 1974 said: *I have no doubt that in five or ten years there will be a popular move in the rich countries will press Congress and the Administration to state that do many things to solve the problems of the environment . But the same does not happen in most, perhaps nowhere, LDC*¹¹.

Forty years later, the story belies the standard economy of capitalist guidelines; in industrialized countries environmental small and large problems are ignored, while the “natural” world remains being a “resource” for them, source of raw materials or energy. Regarding the non-industrialized countries, they keep losing the primary and kinship relation with the earth and its mysteries, which was widely considered by the academic Anthropology as the manifestation of primitivism. Precisely looking forward on leaving this primitivism behind, they seek for “development” associated to industrialization and participation in the global market. Its traditional value of “nature” and human relations towards it has increasingly becoming a romantic or folkloric discourse.

At the same time, countries that denominate themselves as developed consider that certain problems such as climate change can be solved by negotiating with developing countries the emission of CO₂. Developing countries, in turn, accuse the developed ones for the environmental emergency, but at the same time they cannot avoid to wish and seek a higher level of life according to the patterns of consumption. For them, therefore, the increased emission of CO₂ or the production of agricultural raw materials through the use of biotechnology, which are avoided by developed countries because of soil degradation en up resulting in a development index^{12,13}.

The urgency in which economic and financial issues are globally presented as historical catastrophes is like a blindfold that impedes the comprehension these disasters against a nature that can no longer react to reverse the situation. The risk is not seen in the Tokyo or New York Stock Exchange, but the entire “nature”, including men, is at risk and we all will be injured and losses will be seen: *there will be no winners in this “predator” process*. On April 22nd, 2013, Ban Ki Moon, General Secretary of the United Nations (UN) warned: *We must to face the harsh reality that our planet is in danger ... we are compromising our only home and our survival*¹⁴.

The depreciation of the “house”, the echoes of the room¹⁵, that is, as the privileged reference of human life, may be qualified as an “absolute evil” that is affecting all humanity, while the poor are

the first to suffer from it. This reminds the Kantian expression on the concurrent harm to the human condition and that can only be surpassed by divine grace¹⁶. What aggravates the situation is that besides the stated ecology of Northern countries not only ignores the ethical-political responsibility, either in governmental and popular levels, but also that this privileged legal milestone for resolving conflicts is commercial:

*All conflict related to environmental issues (...) does not have a specific place to settle down, the only known are the spaces of dispute foresee that trade laws, such as the World Trade Organization (WTO)*¹⁷.

Sustainability is questioned and, in this milestone, it is a matter of profit, resulting from economic policies within the marked context. In 1972, Meadows drafted with a group of collaborators a report about the limits of growth, which stated that in 100 years the planet would collapse, considering that *in a limited planet, the dynamics of exponential growth (population and per capita) are not sustainable*¹⁸. The publication was a major warning about possible undesired consequences of economic growth. Thirty years later, in 2002, his model of research was reformulated and improved in a new study¹⁹.

A possible solution to this collapse was the “zero growth” or “steady state”, detaining the exponential growth of the economy and population, so that the remaining natural resources are not decreased by the economic growth and thus endure for longer time. In 2002 would defend the same thesis and affirmed that *Earth can only sustain its billions of people if the living standards are as the Basque Country*, this meant then that six planets would be needed to keep its 6,500 million people. The solution proposed is a sharp drop in population growth that would and still remains being related to the development index. The economic theory of decline is in line with this idea²⁰.

Therefore, one can observe that when the economic requirement is related to development and this last is only related to the increase of the Gross Domestic Product (GDP): multiply profits, maintain cash reserves, market dominance. Taking care of the environment and its inhabitants is not profitable. So it is not about facing development with ethics, but ethics related to economics, or better, even with requirement of the economy that, paradoxically and considering its etymology, ignores all world conceptions related to *oikos* as a common home, either in North and South, but more open and noxious in North. We must remember that, etymologically,

economy means the care, organization, and administration of the house and home.

The intended regional integration and development of markets through international agreements, the exchange of goods between nations, have environmental effects due to the increased pressure on ecosystems, once they stimulate a greater exploration of “natural resources”, among other effects, as much or more harmful to the planet and its inhabitants, increasing the need for energy consumption and waste generation. This exchange in the global market of the past fifty years continues favoring the rich and impoverishing the poor. The distribution of per capita among countries has become more unequal in recent decades. In 1960, the average GDP per capita in the 20 richest countries in the world exceeded 15 times the poorest 20 nations. Today, this difference was increased by 30 times once, in average, rich countries have grown faster than the poor ones. The per capita income of the poorest 20 countries remained almost unchanged since 1960, and several of them also decreased ²¹.

So the processes of regionalization and globalization necessarily organize themselves based on a technological, business and consumption model, that is, the profitable economic model, which undoubtedly affects what could be a real sustainable development, that takes into account either environmental and social factors ²²: *The capitalist society is a domain system that decreased the subsistence into a minimum level and created the structural impossibility for a sustainable social and ecological reproduction* ²³.

We shall remember the 90s in Argentina, a decade when the free play of markets caused, as throughout all Latin America, *an increase in poverty and inequality; the raise of foreign debt and the environmental degradation, as well as worsened life in the cities and in the countryside* ²⁴ Between 1960 and 1980, poverty decreased from 51% to 33.5%, but it raised again in the 90s, and in 2002 “it was registered in the region 221.7 million poor and 98.6 million indigents, half of them were children or teenagers” ²⁴. This may be regretted within capitalist terms: *resulted in major natural disasters and an uncontrolled exploitation of resources, depriving many societies of the world from their natural capital (...) putting them at serious disadvantage, since this capital is gone forever and cannot be purchased in markets* ²⁵.

Although, in principle, these losses were only seen in the developing world, what occurred in recent years throughout countries from the North, according to successive reports of the United Nations

Environment Programme (UNEP), compels us to question again what are the risks hidden beyond the circumstantial regional complacency. Just as North could not “save itself”, neither can the South. When it is seen the effort of Latin American countries to increase their technologies, as the others countries in the same condition of being exploited by self-denominated developed countries, it is necessary to make clear the risks assumed, especially for the role that science and technology have played in the worsening of this risk.

In a while ago the depredation in Latin America has started, and despite of various international declarations, its inexorable march continues ²⁶. Latin America is referred, but the depredation is not limited to it. It is impressive to acknowledge that we are losing around 30,000 species of plants and animals a year from the disturbance in ecosystems and hunting, or from the overexploitation of some species ²⁷. So not only experts and specialists in rehabilitation or in the maintenance of soil fertility will solve environmental problems. Considering only this aspect would be observing a single issue, even though sometimes these questionings are so resonant and impactful that conceals the others.

In most cases, environmental problems hide deeper problems, hidden in the financial field, in inequality, poverty and in the lack of equitable development. The solution of these problems, therefore, as well as health and education, are vital to the growth of any population, implying that the focus should be decreasing poverty, and alongside other factors. I risk observing the opinion already developed in other texts, regarding that the problem is not poverty, but wealth. However, the wealth associated to waste, banality, excess of goods, unrestricted consumption is not considered the biggest problem, the issue of the use of the goods of the earth has no solution.

It also implies to realize that for countries in Latin America, for example, addressing environmental issues is to deal with the political-economical-social situation, and not “nature.” On the other hand, one must be careful not to fall into the trap of blaming the poor, neither for their circumstances nor their actions, once they represent, as the “nature”, the victims, not the transgressors.

The sustainability

The easy answer to solve these questions is that the underdeveloped countries do not devel-

op, since it would be harmful to the planet. This response denies, however, the conclusion we reached in this work, once poor countries are so at the expense of the rich. The rich named: United States (USA), Germany, UK, France, Russia, China, in where they are established the power centers of monopoly, the intelligence centers, the cultural and scientific control, and the armed power. The answer we seek to have: sustainability is global or not.

The term - *sustainability* - was first used by the World Commission on Environment and Development, established by the United Nations in 1984 to develop strategies that would stop environmental deterioration. The findings of the Commission were organized in the *Brundtland Report*, "Our Common Future" in 1988 where the term was used, defined as *the development that ensures the needs of the present without compromising the ability of future generations to meet their own needs*²⁸.

Sustainability is a process that must begin in the North, where there is the technical and economical possibility to start it. What can we do in the South? The term must become clear so there is no confusion when debates regarding the third generation arise. And especially to make clear that to be able to achieve it, it is impossible to maintain the empire of capitalist system.

The discourse on environmental protection is entangled to the defense of capitalism as the only possible economic system around the concept of sustainability, which significance is known by approximation for being used most often as commonplace, empty of meaning. The concept of sustainability is classic in economics and currently seems to be associated with ecological and the environmental problems. The proposal of achieving a sustainable development is accepted by all spheres of knowledge and policies with no discussion, although there are few who fully know what it means and even less people who know how to put it into practice.

As noted before, there is an assumption based on who seek to establish as a solution to environmental problems the sustainable development: to associate development to the economic growth from market competitiveness. The development is always presented as positive for developing countries, at all costs. Within the economic language these costs even have a name: "externalities", a concept that refers to the social cost, environmental cost, and socio environmental cost: *Facing the challenge of social costs not included in price, in externalities (...) are invented mathematical refinancings that do not "internalize" them (about which little is known, for*

*example the dismantlement of nuclear power plants and their waste that lasts thousands of yeass)*²⁹.

The economic liberalism has an answer to those who accuse it of ignoring environmental problems: when the income increases, environmental degradation is worsened up to a point at which environment quality starts to improve again³⁰. The development discourse accepts degradation, considering it a necessary and passenger evil due to the greater good. Besides what can be discussed whether this development cost is fair or desirable, this relationship named "inverted U" implies a recovery of the environment by itself, not considering scattered and long term environmental factors.

The environmental factors which improve by themselves include hygiene, the purity of drinking water, the reduction of sulfur oxide particles, nitrogen oxide, carbon monoxide and fecal coliforms; it was no proved that the curve is valid for carbon dioxide, the soil exhaustion, the loss of forests and other basal ecosystem processes: *The inverted U curve tells us about the reduction or recovery of environmental factors themselves, without considering systemic consequences. Indeed, it ignores issues globally related, for example, when reducing a contaminant agent causes an increase of other, or when reducing contamination in a country increases it in its neighborhood*³¹.

This type of accommodation between the environment demands and the liberal economic proposals, pretends to be the technological practices of production and consumption the ones to align to the assimilative capacity of the Earth, ignoring the complexity of their reactions. As a valuable example of these solutions von Weizsacker and Lovins may be cited, where it lies a formula to stimulate recycling, but is not emphasizing the need to lower consumption³².

By associating this propose to development, as the only possible to do it, there is only one acceptable measure: consumption; consequently, it is not only ignored the difficulty of dealing with "nature", but the fact that their capabilities are limited and that its true potential could not be established. Parodying Meadows we can state that the current consumption and emissions are already unsustainable and, if extended to Southern countries the current levels of consumption in the Northern countries, the ecological situation in the world would be much worse, since it would be required 10 times more resources³³. As stated by Nicholas Georgescu-Roegen in its proposal for greener economy³⁴, nature must be assumed as a limit to economic processes.

It's emphasized to remember these data: between 1950 and 2007, the consumption of water has tripled, the fossil fuels quintupled, meat consumption has grown 550%, emissions of carbon dioxide increased 400%, world GDP increased 716%, world trade reached 1,568%, advertising expenses worldwide grew 965%, the number of tourists who left their borders increased 2,860%, the number of cars increased from 53 million in the 1950 to 565 million in 2002, and consumption of paper jumped to 423%, in this case between 1961 and 2002³³. Therefore, to think about development in accordance with the current guidelines is a death trap. It is not unreasonable then to seek for a solution to keep the underdevelopment where it already exists.

Human life becomes a significant space, a habitat, an environment that will frame, the air you breathe and what you eat, makes you who you are and gives signification to your life, just as the social conditions and the use of language, through which you recognize that the fertility of the land, water and air are part of their symbolic references and that ignoring it constitutes a "species" of depleted human, with no vital horizon. The Greeks had already noticed that man is a being made of air, soil and water. Is it possible, then, to live worthily, where water, air and soil become hostile elements, enemies, contaminants poisons? Or objects that everyone uses and throws away?

Any ethical or political answer, any social architecture, may rise with the absence of these elements. No human project is viable without soil, water and air. Not considering the environmental degradation if the underdeveloped countries do not develop is not only unfair, but insensate.

Final considerations

While still being questioned specifically, as separate issues, the environment will be a problem of experts. While not taking an ethical attitude over the overwhelming development of technology and biotechnology, the entire discourse will continuously be little transcendent. Although the triggering factor of the environmental risk is not technology, but the human greed and ambition without limitations, one of the first steps is to disregard technology as fate and to distance from it – a considerable assumed distance, and not as mere rhetoric. The frayed value of consistency should be recovered and used to face problems. It has been observed that political decisions require a sustainable development, con-

sidering the inter-relationship between three basic elements: economic justice, sustainability and ecosystem protection, as well as social equality.

When sustainable development is discussed, the terms development, improvement and florescence are taken as synonymous, which implies different actions if related to: increase, increment, opulence. In the first sense, it would not only deplete the resources of "nature", but would allow it to comprehend from since man is man, the event of *bios*: the manifestation of different cultures. It would then be a sustainability based on justice, recognition of the other, whether human or not. For that it will have to disassemble a skeptical discourse on ethics, supplanting by the effectiveness.

At the time that ideologies have disappeared, this pragmatism acts in his place and also acquires an ideological character, hidden behind heavy traditional moral words that are not put in doubt neither questioned on their meaning, resulting in the domination of not only "nature", but also the human. Words like autonomy, equality, freedom, rights, progress, science, bioethics, are written with capital letters, and the word justice is written with an even greater capital letter, although it is comprehended as the act of going to court, chaired by a judge, to claim the protection by law. And by stating that, there is no question about the claim, or the law, or the judge, only justice that, with the capital letter, becomes reference of something that transcends the law. This same is repeated with the other big word as solidarity. When the liberal pragmatism demands to act ethically, it claims that a judge may intervene and propose to a person to choose freely, exercising autonomy and not considering this inferior to anyone, independently of their status.

However, this is necessary, but not sufficient, and becomes a genuine caricature of ethics that seeks for justice. Often this act may be the result of an authentic exercise of justice, but in most cases it becomes a simulacrum in which everyone act as they were free, equal and work as subjects of rights, what is not in societies fundamentally constrained economically, socially, and historically. For the exercise of ethics, therefore, it is not about just a decision or isolated choice, but that this should involve the assumption of social responsibility. Responsibility is "the duty of power"³⁵, and consequently occupies a central place in the field of ethics when it leads to political action, that is, a public action, taking into account and committed with other, human or nonhuman. *Responsibility implies solidarity*³⁶.

Nothing we do finishes within ourselves, but “extends” in space, has consequences on others and vice versa. We cannot think of any healthy relationship, health it is not conceivable without the other, among which the “natural” world makes part³⁷. Human beings are supportive towards our common fate and our planet. We either are saved together or perish together. No movement in this world we live is in vain, nor in the world called the natural or cultural, every movement is solidarity by itself, and immerses us in a global movement. It is the free exercise of corporeality as the occupation of common space, which allows humans to recognize art and part of the “natural world”³⁸.

Solidarity is then the first response, which will allow us to live in communion with others and not competing with them, which will give us a chance to build together rather than destroy each other, recognizing life in our surroundings, allowing an authentic sustainability. And solidarity requires commitment, that is, the common promise, compromising ourselves, to give ourselves to each other, trusting each other.

Ethics cannot be imposed; it is only a formulation of action criteria that are worth only if assumed as behaviors. The effectiveness of ethics can only be measured when its internal tension manifests in a vocation of freedom, justice, turning into political decisions and actions that respond to this tension. In this context, the claim that scientific and technological practices, all the interventions on human life and the “nature” happen under the guidance of ethics. This must be the support of all political action including the states in which should also manifest this tension. Although the exercise of ethics cannot be separated from politics, by accentuating the first repels us away from the temptation of a utility pragmatism and allows us to highlight what has to do with the values that add to community human actions, such as the value of human life,

identity, integrity, and freedom. Following political action with ethical reflection requires us to respect life and, even more, to honor it, to enhance it.

The replica of ethics towards the changes generated by the impact of man in the “nature”, presented to us as risks, even as dangers and threats to our future, must be to question technoscience, and from the committed response, refer it to the principle of precaution^{39,40}. The technical considerations, the ecological proposals, the philosophical reflections regarding the relationship human being - “nature” should be interesting and this is only possible when they relate to justice. But justice should not be abstract, being put into action in the context of states. This will only be possible by changing some situations that are unfair, such as the current differences in the use of natural resources between North and South, in favor of the North; subsidiarity from North to South considering that the first is rich and the second poor; the predatory nature of the economy, not only of “natural”, but human resources.

The Rio Declaration in 1992 said: “*Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided*”⁴¹. Therefore, the first thing to be noted is to achieve societies where resources, either short or large, are accessible to all citizens equitably and that political action is not about the governments only, but responsibility of the states as well.

References

1. Amorín C. Ciencia, conciencia y sociedad. Mae-Wan Ho Uruguay. Biodiversidad. 2000 out; 25-26: 33. Disponible: <http://www.grain.org/es/article/entries/907-ciencia-conciencia-y-sociedad-dra-mae-wan-ho-en-uruguay> (acceso 10 nov. 2011).
2. Merino S. La tragedia de Santa Fe. Red Latinoamericana y del Caribe de Bioética. [Internet] Disponible: <http://www.unesco.org.uy/shs/red-bioetica/es/noticias-y-opiniones/bioetica-y-sociedad.html> (acceso 18 jun. 2014).
3. Marraro F. Siembra soja y cosecharás inundados. Fundación Proteger. 23 maio 2004. Disponible: <http://www.proteger.org.ar/siembra-soja-cosecharas-inundados> (acceso 10 nov. 2011).
4. Samsel A, Seneff S. Supresión de enzimas citocromo P450 y biosíntesis de aminoácidos del microbioma intestinal por glifosato: vía de enfermedades modernas. Entropy. 2013; 15:4: 1.416-63. Disponible: www.mdpi.com/1099-4300/15/4/1416 (acceso 18 jun. 2014).

5. Avila V, Medardo. Sr. Ministro Barañaño el glifosato no es agua con sal. [Internet] Red Universitaria de Ambiente y Salud, Médicos de pueblos fumigados. Disponible: <http://www.lavoz.com.ar/opinion/ministro-baranao-glifosato-%EF%BF%BDno-es-agua-con-sal> (acceso 10 nov. 2011).
6. Red Universitaria de Ambiente y Salud. Lo que no se dice de la nueva planta de Monsanto en Córdoba. [Internet] 5 set. 2012. Disponible: <http://www.reduas.fcm.unc.edu.ar/lo-que-no-se-dice-de-la-nueva-planta-de-monsanto-en-cordoba> (acceso 18 jun. 2014).
7. Greenlee AR, Arbuckle T, Chyow P. Risk factors for female infertility in an agricultural region. *Epidemiology*. 2003 jul.; 14(4): 429-36.
8. Der Parsehian S, Grandi D. Plaguicidas organoclorados prohibidos en leche materna. *Actas 33^{er} Congreso Argentino de Pediatría*. Mar del Plata; 1 al 4 de Octubre del 2003.
9. Weber M. El político y el científico. Madrid: Alianza Editorial; 1967.
10. Apel KO. Diskurs und Verantwortung. Das problem des Übergangs zur postkonventionellen moral. Frankfurt: Suhrkamp; 1988.
11. Farvar MM, John P, editors. The careless technology. Ecology and international development. Garden City: The Natural History Press; 1992. p. 960.
12. Pengue W. Fundamentos de economía ecológica. Buenos Aires: Kaicron; 2009.
13. Martínez Alier J, editor. Los principios de la economía ecológica. Madrid: Argentario; 1995.
14. El Informador. La ONU alerta que el planeta está "en peligro". Disponible: <http://www.informador.com.mx/internacional/2013/452738/6/la-onu-alerta-que-el-planeta-esta-en-peligro.htm>
15. Heidegger M. Bauen, Vohnen, Denken. In: Heidegger. *Vorträge und Aufsätze*. Pfullingen: Neske; 1954.
16. Pfeiffer ML. "El mal radical". *Agora. Papeles de Filosofía*. 2000 fev.; 19(2): 127-38.
17. Flores M. Todos los caminos conducen a la propiedad intelectual. *Revista Biodiversidad*. 2002 jan; 31:8.
18. Meadows DH, Randers J, Behrens W. Los límites del crecimiento. Madrid: Fondo de Cultura Económica; 2002.
19. Meadows DH, Randers J, Behrens W. Los límites del crecimiento 30 años después. *Galaxia Gutenberg*: Barcelona; 2006.
20. Latouche S. La apuesta por el decrecimiento: ¿cómo salir del imaginario dominante? Barcelona: Ed. Icaria; 2009.
21. Stiglitz J. El malestar en la globalización. Buenos Aires: Taurus; 2002.
22. Buxedas M. El desarrollo sustentable en las negociaciones del Mercosur. *Nueva Sociedad Caracas*. 1999 jul-ago; 162: 68-78.
23. Breilh J. Perspectivas política, sociales y éticas de la investigación en una era de barbarie. *Rev. Esc. Enferm. USP*. 2002; 36(3):214.
24. Rodríguez M, Calvento M. Análisis de los efectos de las crisis internacionales sobre la pobreza en América Latina: El caso de Argentina. *Observatorio de la Economía Latinoamericana*. 2004 out; 33. Disponible: <http://www.eumed.net/cursecon/ecolat/ar/> (acceso 10 nov. 2011).
25. Reboratti C. Ambiente y sociedad. Buenos Aires: Planeta/Ariel; 1999. p. 216.
26. Pfeiffer ML. Transgénicos. Un destino tecnológico para América Latina. Mar del Plata: Ed. Suárez; 2002.
27. Eldrege N. La vida en la cuerda floja. La humanidad y la crisis de la biodiversidad. Barcelona: Tusquets; 2001.
28. Organización de las Naciones Unidas. Informe Brundtland "Nuestro futuro común". (ONU/ Comisión Mundial para el Medio Ambiente y el Desarrollo; 1988) [Internet] Disponible: <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N87/184/67/IMG/N8718467.pdf?OpenElement>. (acceso 10 nov. 2011).
29. Ramos Martín J. Empirismo en economía ecológica: una visión desde la teoría de los sistemas complejos. 2004. [Internet] Disponible: <http://www.geocities.com> (acceso 30 out. 2011).
30. Kenneth Arrow, Bolin B, Costanza R, Dasgupta P, Folke C, Holling CS *et al.* Economics growth carrying capacity and the environment. *Science*. 1995 abr.; 268: 520-1.
31. Carpenter S. Desarrollo y sostenibilidad fuerte. AAVV ¿Sostenible? Barcelona: Ed. Icaria; 1997. p. 58-9.
32. von Weizsäcker EU, Lovins AB, Lovins LH. Factor 4. Duplicar el bienestar con la mitad de recursos naturales. Informe al Club de Roma. Barcelona: Galaxia Gutenberg/Círculo de Lectores; 1997.
33. Pengue W. Revolución de la sostenibilidad. Entrevista. 2011 [Internet] Disponible: http://vallianceprod.com/index.php?option=com_content&view=article&id=68&Itemid=63&lang=es (acceso 10 nov. 2011).
34. Georgescu-Roegen N. La ley de la entropía y el proceso económico. Fundación Argentario, Madrid, 1999.
35. Jonas H. El principio de responsabilidad. Madrid: Herder; 1995.
36. Pfeifer ML. Todos para uno y uno para todos. El principio de solidaridad. In: D. Micheli. Libertad, solidaridad, liberación. Homenaje a J.C. Scannone. Río Cuarto: Ediciones del Icala; 2003.
37. Junges JR, Barbiani R. Interfaces entre território, ambiente e saúde na atenção primária: uma leitura bioética. *Rev. Bioét. (Impr.)*. 2013; 21(2): 207-17.

38. Pfeiffer ML. El espacio de la desmesura. Una aproximación bioética a la moral. Buenos Aires: Antropofagia; 2014. (en prensa).
39. Pfeiffer ML. El principio de precaución. In: G. Fernández, S. Cecchetto, editores. Transgénicos en América Latina: el retorno de Hernán Cortés. Mar del Plata: Suárez; 2003.
40. Agencia Europea de Medio Ambiente. Lecciones tardías a partir de alertas tempranas: el principio de precaución 1896-2000. Madrid: Centro de Publicaciones del MMA; 2003.
41. Organización de las Naciones Unidas. Declaración de Río sobre el medio ambiente y el desarrollo. (ONU;1992) Principio 10 [Internet] Disponible: <http://www.pnuma.org/docamb/dr1992.php>

