



Universiteit  
Leiden  
The Netherlands

**Can we construct differently from an experience of the degrading environment as function of the discourse of modernity? The answer is yes!**

Kamanzi, A.

### **Citation**

Kamanzi, A. (2012). Can we construct differently from an experience of the degrading environment as function of the discourse of modernity? The answer is yes!. *Asc Working Paper Series*, (102). Retrieved from <https://hdl.handle.net/1887/19548>

Version: Not Applicable (or Unknown)

License: [Leiden University Non-exclusive license](#)

Downloaded from: <https://hdl.handle.net/1887/19548>

**Note:** To cite this publication please use the final published version (if applicable).

African Studies Centre  
Leiden, The Netherlands

**Can we construct differently from  
an experience of the degrading  
environment as function of the discourse  
of modernity? The answer is yes!**

Adalbertus Kamanzi

ASC Working Paper 102 / 2012

African Studies Centre  
P.O. Box 9555  
2300 RB Leiden  
The Netherlands

Telephone +31-71-5273372  
Website [www.ascleiden.nl](http://www.ascleiden.nl)  
E-mail [asc@ascleiden.nl](mailto:asc@ascleiden.nl)  
[adalbertus.akamanzi@gmail.com](mailto:adalbertus.akamanzi@gmail.com)

© Dr Adalbertus Kamanzi, 2012

# Can we construct differently from an experience of the degrading environment as function of the discourse of modernity? The answer is yes!

By Adalbertus Kamanzi  
Research Fellow,  
Institute of Rural Development Planning (IRDP)  
Dodoma, Tanzania.  
([adalbertus.akamanzi@gmail.com](mailto:adalbertus.akamanzi@gmail.com))

## Introduction

The degrading environment is one of the major discussions of our time. The environmental challenges include acid rains, air pollution, global warming, hazardous waste disposal, ozone depletion, smog, water pollution, overpopulation, rainforest destruction, poverty, and soil erosion. The most affected areas include land, forests, water, the ozone layer, people and the biodiversity. It is because of these challenges that climate change is one of the famous discourses of our time.

The main argument in this paper is that the degrading environment, as we know it today, is a consequence of the discourse of modernity. The study, however, creates optimism in the environmental rehabilitating processes because as discourses are constructs, instead of constructing destructively, we can construct constructively. In this paper, I begin with the presentation of some re-appraisals on the environmental degradation state. In another section, I present the environmental degradation question as an anthropocentric issue. In a rather long section, I present the environmental degradation as a function of the discourse of modernity. In a final section, I present my own reflection about the environment, beginning from my personal experience to what I think could be done.

## Environmental degradation: Some reappraisals

The degrading environment has caused a number of intellectual debates seeking to assess the impact of human activity on the environment. Characteristic of these debates is the fact that they predicted the impending disaster of a shrinking planet, particularly in the sixties. People like Aldo Leopold, for example, were already involved in the discussions about the environmental sanity. The major concern was sensitizing, blaming, warning, and urging people to open their eyes to the ecological crisis.

In 1962, Rachel Carson with her *Silent Spring*, inspired widespread public concerns with pesticides and pollution of the environment; the study documented detrimental effects of pesticides on the environment, particularly on birds. This is a publication that facilitated the banning of the DDT pesticide in 1972 in the United States of America. Hardin (1968), with his *Tragedy of the Commons*, argued for mutual coercion and relinquishing of the freedom to give birth because the unrestricted population growth would lead to resource overuse. This is the reason why he argued against food aid to the developing countries so that these countries may consequently be compelled to reduce

their growing populations (Hardin 1994). Another study by Ehrlich *et al.* (1968), *The Population Bomb*, highlights the fundamental issue of the earth's finite capacity to sustain human civilisation (Ehrlich and Ehrlich 2009:63). Both Hardin (1968) and Ehrlich *et al.* (1968) are strongly influenced by the Malthusian theory that states that population increases in a geometrical ration, whereas food supply increases in an arithmetic ratio. For this matter, then, there would be widespread poverty and starvation, which would only be checked by natural occurrences such as diseases, high infant mortality, famine, war or moral constraint.

The *Limits of Growth* (Meadows *et al.*, 1972) argued that we cannot grow forever. With a computer model that analysed global resource consumption and production, they showed a global trend on resource use beyond the carrying capacity of the planet.

... continued growth in global economy would lead to planetary limits being exceeded ... resulting in the collapse of the population and economic system. ... collapse could be avoided with a combination of early changes in behaviour, policy and technology (Turner 2008:1-2).

Already Adam Smith, in his *The Wealth of Nations*, recognised the limits to growth, predicting that in the long run the population growth would push wages down; natural resources would become increasingly scarce, and; the division of labour would approach the limits of effectiveness. Linked to this issue of growth limits is the discussion about the steady state economy. This concept of a steady state economy derives much from the 19<sup>th</sup> century John Stuart Mill who anticipated the transition from economic growth to a stationary state:

...the increase of wealth is not boundless. The end of growth leads to a stationary state. The stationary state of capital and wealth... would be a very considerable improvement on our present condition. ...

...a stationary condition of capital and population implies no stationary state of human improvement. There would be as much scope as ever for all kinds of mental culture, and moral and social progress; as much room for improving the art of living, and much more likelihood of it being improved, when minds ceased to be engrossed by the art of getting on. (Mill 1848)

According to Daly (2008:1), a stable state economy is a “system that permits qualitative development but not aggregate quantitative growth”. In an earlier work, Daly (1997) presents the most distinctive traits of a steady state economy is that it undergoes neither growth nor recession; it has constant populations of people, stocks of capital, and a constant rate of “throughput”, that is, energy and materials used to produce goods and services. Daly (2008:2) writes:

Regardless of whether it will be hard or easy we have to attempt a stable state economy because we cannot continue growing, and in fact so-called “economic” growth already has become uneconomic. The growth economy is failing. In other words, the quantitative expansion of the economic subsystem increases environmental and social costs faster than production benefits, making us poorer not richer, at least in high consumption countries.

These few re-appraisals, picked as examples among many, created an increased awareness for environmental degradation and concern about resource scarcity and population growth. Such a realisation of ecological imbalance was formulated in a vision for collective action by launching a global partnership to improve the human environment. The vision laid the foundation for the UN Stockholm Conference of 1972 on the Human Environment. It was the beginning of the international debate on the

environment. This conference was responsible for development of the international law and discussion of serious international co-operation on environmental issues. The international community was inspired further with the environmental concerns by *Our Common Future* (WCED, 1984), popularly known as the Brundtland Commission. In this report, the concept of sustainable development was explicitly pronounced and defined as meeting the needs of the present without compromising the ability of the future generations to meet their own needs (WCED, 1987:43).

### Environmental degradation: Anthropocentric question

At the core of the environmental degradation is anthropocentrism. In this paper, anthropocentrism is looked at from the perspectives of 1) unequal interactions between humans and humans and humans and other species; 2) expansion of agricultural techniques; 3) Western expansionism, and 4) human self-actualisation in capitalism and Marxism.

One of the major cause for the environmental challenges has been the unequal interaction of human beings among themselves, on the one hand, and their unequal interaction with other species for survival, on the other. These different interactions have led to the destructiveness of humans on the environment for quite some time. Beinart (2000:270), tracing the destructiveness, has argued that the earth-shattering environmental consequences have been due to European expansion over the last 500 years. Eurasian disease and immunities, together with the technology gap and ruthless conquest, facilitated the devastating depopulation of the Americas, and their re-population by invaders – human, animal and plant. The taming of nature and the indigenous peoples emerges as the central motif. It is in this expansionism that there is explanation of the recent African environmental history in the line of the coloniser and the colonised. The environmental consequences of colonial incursions (including the appropriation of natural resources such as wildlife, forests, minerals, and land), the environmental regulations geared to perpetuate resource exploitation, and the inadequacy of colonial science has had disastrous effects on the African environment (Beinart, 2000:271-275). It is in this line that Murphy (2009) argues that the current environmental challenges are a function of the logic of imperialism expressed, for example, through colonialism.

According to Barbour (1978), archeological-fossil evidence shows that trouble might have begun ten thousand years ago when new agricultural techniques developed in the Ancient Near East and parts of Asia. A move from a nomadic hunter-gathering culture to a settled agricultural society marked the first large-scale permanent human effects on the natural environment. This ancient agricultural revolution spread between 8000-6000 BC. Sale (2006) in his *After Eden: The Evolution of Human Domination*, argues that historically it is humans who have destroyed the ecosystem. Richardson (2007:60) reviewing and paraphrasing Sale writes:

... the theme of Kirkpatrick Sale's *After Eden: The Evolution of Human Domination* lies not in the glorification of the species but in its condemnation: Modern humans ... have left not one ecosystem on ... earth free of their domination. They have transformed more than half of the land on the planet for their own use." They have consumed a vast array of plant, animal, and mineral resources often to depletion ... and they have no regard to their sustainability

Expansionism, together with the idea of progress that have led to an outstanding global environmental degradation. Under this idea of progress, the elements of

conviction of the nobility and superiority of western civilisation, the canonisation of economic and technological growth, belief in reason, and the intrinsic importance and ineffaceable worth of life on this earth are key tenets (Nisbet, 1980:317). Christianity, which has been taken as an element of civilization in the modern times in contrast with traditional spiritualities or religions, tried to give as a moral dimension to history a cumulative experience for humanity towards eternal life through knowledge, reason, technology, arts, and economy, in a way of making progress some kind of secularization of the Christian eschatology (Gare 1995:4). With the critical ecological crisis stemming from expansionism and progress, an inference can be made: What has been paramount has been the exploitation of the environment for homocentric purposes, actions that have fundamentally resulted in continuous environmental degradation processes.

Marxist thought displays an outstanding critique of the capitalist social system arising from the Industrial Revolution that has been the cause of much environmental misuse. The criticism is based on the contention that just as production founded on capital creates universal industriousness, it also creates a system of general exploitation of natural and human qualities. Zimmerman (1996:61) when talking of deep ecology asserts that Marxism shares the elements of anthropocentric humanism with capitalism, despite the purported position of being radically opposed to capitalism. This is simply because Marxism, as capitalism, promotes a wholly instrumentalist attitude towards nature. Mar's claim is that communist revolution would dismantle the class structure and technology should control many natural processes. Thus, regardless of the diametric opposition positions between Marxism and capitalism, they both share the belief that human beings can and should use science, technology and industry to master nature for material interests. In a word, the ideal for both Marxism and capitalism of the self-actualisation of humanity's potential can hardly be reconciled with the deep ecology's ideal of self-realisation for all beings. Thus, both Marxism and capitalism are responsible for an anthropocentrism which has been systematically laid down historically to produce modern exploitative science and technology; the latter have systematically shaped humans attitude toward the environment.

Anthropocentrism becomes a serious environmental challenge because nature is seen along the lines of serving human beings. Actually, it is as if human beings are not part of nature, and if they are part of it they are above it. It is no wonder, then, that even the 1972 conference in Stockholm was called: UN Conference on the Human Environment, rather than UN Conference on the Environment or Nature, for example. Anthropocentrism is, still, found in Brundtland's foreword to *Our Common Future* (WCED, 1987:xi):

... when the terms of reference of our Commission were originally being discussed in 1982, there were those who wanted its considerations to be limited to environmental issues only. This would have been a grave mistake. The environment does not exist as a sphere separate from human actions, ambitions and needs, and attempts to defend it in isolation from human concerns have given the very word "environment" a connotation of naivety in some political circles.

The operating understanding of the environmental and human development is human-centred: The human being is understood as being apart from nature and whose development should only be the focus. The rest of nature should serve the human being.

## Environmental degradation: Discourse of modernity

This section presents the idea that the environmental degradation is a function of the discourse of modernity. Let me begin by clarifying the concept of discourse. Discourse refers to the regimes of truth and general politics of truth of each society (Foucault 1979). Thus, it is “a specific ensemble of ideas, concepts and categorizations that are produced, reproduced and transformed in a particular set of practices and through which meaning is given to physical and social realities” (Hajer 1995:60). This understanding of discourse, however, has two important dimensions. The first dimension is about the “frame/macrothought”: Specific ensemble of ideas, concepts and categorizations (regimens of truth and its politics). The second dimension has to do with “practices/behaviour and decision-making” in which the frames are produced, reproduced and transformed.

Three notes on discourses, however, are important from the perspective of Tennekes (ny:1-2), with regard to this study. The first note is that there is not only a single discourse for any given social issue. This implies that for any single reality there are possibilities of having multiple discourses has many frames. The second note is that discourses produce practices. This implies that discourses are productive and lead people to action. The third note is that discourses change because they are being contested and amended continuously. This implies evolution of the frames. This third note is of particular relevance in this study because, as we shall see, the discourses holding sustaining the traditional ecosophy are gone to give way to discourses sustaining modernity.

## Modernity frame: Sapere aude

Boyne and Rattansi (1990) characterise modernity as having to do with transformation for a much better life, destroyer of traditions, and source of unities. Modernity is:

a maelstrom that promises adventure, joy and growth, transformation of ourselves and the world, but also threatens to destroy cherished traditions and securities; it unites by cutting across class, region and ideology and yet disintegrates through incessant change, contradiction and ambiguity... (Boyne and Rattansi, 1990:6)

According to Giddens (1990:1), modernity

refers to modes of social life or organisation which emerged in Europe from about the seventeenth century onwards and which subsequently became more or less worldwide in their influence.

Modernity, as the word goes, does not refer to embracing of the new for its own sake, but the presumption of wholesale reflexivity, including reflection on the nature of reflection itself:

Inherent in the idea of modernity is a contrast with tradition. .... The routinisation of daily life has no intrinsic connections with the past at all, save in so far as “what was done before” happens to coincide with what can be defended in a principled way in the light of incoming knowledge. To sanction a practice because it is traditional will not do; tradition can be justified, but only in the light of knowledge which is not itself authenticated by tradition. ... this means that, even in the most modernised of modern societies, tradition continues to play a role. But ... justified tradition is tradition in sham clothing and receives its identity only from the reflexivity of the modern (Giddens, 1990: 36-38)



Accordingly, therefore, the focal point for a comprehensive excursus on modernity is reason. Its high point in the history of western ideas was the epoch following the Middle Ages in Europe, the period of “enlightenment”: The age of the glorification of reason. “The motto of enlightenment is therefore *sapere aude!* Have courage to use your own understanding!” (Kant 1971:54), Kant said this referring to a mature person, that is, an enlightened person. Modernity assumes a universalizing and totalizing character. This is the reason why modernity opposes itself to other traditions anterior to it and to other cultures. It confronts the geographic and symbolic diversity of other cultures. It “imposes itself throughout the world as a homogeneous unity, irradiating from the occident” (Baudrillard, 1987:63).

With the gradual process of the traditional order collapsing, modernity attracts people to the possibilities of self-determination and self-construction (Matanle 2011), and still the same people “actively and reflexively attempt to reconstruct and control their social world in the light of rationally revealed but permanently provisional knowledge”. This is what Bauman (1995) calls endemic indeterminism. For Giddens (1990), this mode of life introduces trust for rational expert systems and unfamiliar persons for even the simplest of life tasks, on the one hand, and risk because “no matter how well a system is designed and no matter how efficient its operators, the consequences of its introduction and functioning, in the context of the operation of other systems and of human activity in general, cannot be wholly predicted” (Giddens, 1990: 153), on the other hand

According to Matanle (2011:103), modernity is being pushed by capitalism in order to reach its goal of a progressive and linear transformation of the human experience:

As such its quality can most clearly be described as a transformative ethic that has as its engine pushing it forwards and outwards the positivistic and economic rationalism that is capitalism. That is to say, with capitalism as its mechanism and its fuel, modernity seeks a progressive and linear transformation of the human experience into a rationally and reflexively ordered lifescape that can be proactively controlled and manipulated for the purposes of providing an ever more comfortable, fulfilling, liberating, challenging, and complex life for its human architects.

The critics of modernity have described it variously. According to Best and Kellner (1991:112), Fredrick Nietzsche described modernity as an advanced state of decadence in which “higher types” are leveled by rationalism, liberalism, democracy, and socialism, and where instincts go into steep decline. Heidegger saw it as “the triumph of humanism” and a project of a rational domination of nature and human beings, the culmination of a process of “forgetting Being”. Deleuze and Guattari go farther when they describe it as oppressive territorialisation of desire into constrictive social structures and repressed personalities that nevertheless multiplies rhizomatic lines of escape (Best and Kellner, 1991).

Taylor (1992:205) distinguishes between two theories of modernity. One is a “cultural” theory and another one an “acultural theory”. With the “cultural” theory of modernity, the transformations in the contemporary Atlantic world are seen as cultural of groups of closely related cultures, to be contrasted to all others, including their own predecessor civilization, but with a lot in common. With the “acultural” theory, on the other hand, the transformations of the contemporary Atlantic world are considered as culture-neutral operations. This implies that the transformations are not seen in terms of specific cultures, but rather seen as of a type which any traditional culture could undergo. A typical example is this way of looking at modernity as the growth of human

reason; another example would be seeing the transformations as if any and every culture can go through, and therefore which all will probably be forced to undergo.

The distinction is quite important for this study for it analytically facilitates the clarification of what theoretical outlook of modernity is being used in this study has: Modernity is cultural; it is the western transformation that is being talked about, together with its universalizing character of self-imposition to other cultures.

### Modernity practices: Dissection and exploitation

From the frame of modernity, certain ways of doing, reacting, and relating with things have evolved. These practices emanating from the modernity frame resulted into two main categories of dissection of nature and exploitation of nature. Francis Bacon (1561-1626) is one of the pioneers of western modern scientific thought and its extension into technology for huge industrial and commercial explorations. In old western thought, however, there existed already thinkings that alienated nature. For example, already Aristotle, in his *Politics*, suggested a hierarchy: "... hence it is similarly clear that we must suppose that plants exist on account of animals ... and the other animals for the sake of man..." (Gruen and Jameison, 1994:19). Even though Aristotle acknowledged this hierarchy, he tried to counterbalance it with the concept of natural teleology through establishing the intrinsic value of everything in nature: Everything had a purpose for existence.

Why shouldn't nature operate not for the sake of something or because a result is better? If then things occur either by coincidence or for the sake of something ... therefore, among the things which occur and exist in nature, (they) are for the sake of something (Gruen and Jameison, 1994:19).

Another example is the biblicalism of the Judeo-Christian tradition, deeply rooted in Western Europe, that suggested subjugation of nature with its Genesis 1:28: "...Rule over the fish of the sea and the birds of air and over every living creature that moves on the ground". In this quote, the subjugation of the other-than-human-beings is implicit, even though some scholars have tried to mitigate the controversy by making a distinction between dominion and domination (Al Gore, ..., as cited by Gruen and Jameison, 1994:19)

In his *Novum Organum*, Francis Bacon influenced the acceptance of accurate observation and experimentation in science. In it, he maintained that all prejudices and preconceived attitudes, which he called idols, must be abandoned, regardless of whether they were the common property of a people due to common modes of thought (idols of the tribe), or the peculiar possession of the individual (idols of the cave); and regardless of whether they arose from too great a dependence on language (idols of the marketplace), or from tradition (idols of the theatre). Much as Bacon's ideas are biblically-charged, they are significant in the development of empiricism, as Jung (1991:7) comments:

Bacon's conception of philanthropia is an anthropocentrism pure and simple. For it is predicated upon man's absolute knowledge and mastery of nature justified on the grounds of the biblical mandate. As the holy inquisition of nature leads to philanthropia, the Bible mandates that nature with "all her children" be bound and enslaved to serve man to achieve "the fructifying and begetting good for mankind".

Francis Bacon propagates the idea of the dissection of nature (experimentation) rather than the mediaeval scholastic abstractions of notions (speculation). For him,

nature should be bound into human service. It is in this bending of nature to human utility that nature loses its sacrality. While before Bacon, the relationship between human beings and nature was characterised by an I-thou ethic, which was in many times dominated by propitiation before any act of using the “thou”, Bacon’s transformation resulted into an I-Other ethic of legitimated domination of the “I” over the “Other”. According to Spedding *et al.* (1870:20??),

The new man of science must not think that the inquisition of nature is in any part interdicted or forbidden. Nature must be bound into service and made a slave, put in constraint, and moulded by the mechanical arts. The searchers and spies of nature were to discover her plots and secrets. ... Only by digging further and further in the mine of natural knowledge, could mankind discover that lost dominion (of nature).

Merchant (1992:41-59) explains this phenomenon of transformation as a movement from an organic to a mechanistic worldview, with the interlude of the rise of capitalism.

Bacon’s revolutionary thinking had serious effects on nature. The strong mechanistic worldview, which developed from his proposals to dominate nature through experimentation, welcomed more explorations on nature for human benefits. This mechanistic worldview (inspired by Descartes) set a strong foundation for the Industrial Revolution and cleared any animistic and/or organic assumptions about the cosmos. Another impact of Bacon’s revolution is the understanding of nature in terms of exploitation to serve human life. That is why Glanville (1958:9), following Bacon, commented that the basic objective of natural philosophy was to “enlarge knowledge by observation and experiment ... so that nature being known, it may be mastered, managed, and used in the services of humane life.”

Adam Smith (1723-1790), with his *An Inquiry into the Nature and Causes of the Wealth of Nations*, revolutionised the economic thinking shifting it away from management to wealth generation, material welfare, and scarce resources. Before Smith, the concept of economics was limited to management. For example, the Greeks understood economics as science of household management. In many cases, generally, economics was understood as statecraft (because it coincided with political economy). For example, *Arthashastra*, an Indian term equivalent to economics, means statecraft. Montesquieu ascribes economic principles as pertaining to the particular form of government established in the country (Jhingan, 1975). This understanding of economics coincides with Aristotle’s first distinction of economics as *oikonomike*, that is, economics as provision of material needs of the household (Opio, 1993:11). After Smith, however, the conceptualisation of economics changed irrevocably.

Smith’s understanding of economics was that one of treating the “nature and causes of wealth of nations and proposes to enrich both the people and the sovereign (Jhingan, 1975:1).” Robbins, in his *Essay on the Nature and Significance of Economic Science*, defined economics as “the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses (Robbins, 1932:16).” Self-interest, as suggested from the *Wealth of Nations*, became the centre of attention in economics. The following two passages are phenomenal exemplifications of the notion of self-interest.

It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard of their interest. We address ourselves, not to their humanity but to their self-love ... (Smith, 1759, as quoted by Raphael and Macfie, 1975:162)

In his *Wealth of Nations*, Smith (as quoted by Campbell, Skinner, Todd, 1976:2) advances the same idea by noting that:

Every individual ... neither intends to promote the public interest, nor knows how much he is promoting it .... By directing his industry in such a manner as its produce may be of the greatest value, he intends only his gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was not part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it.

This concept of economics by Smith reflects the second categorisation of economics by Aristotle, the *chrematistiké*, that is, the art of enrichment (Opio 1993:11). Adam Smith's thinking is none other than an economic Darwinism: The survival of the fittest in the economic race.

Dissection of nature is a legacy of Francis Bacon through his *Novum Organum* that inspires the push towards "discovering the plots and secrets of nature" and the eventual mechanistic vision of reality. The exploitation of nature, instead, emphasizes the thrust to material welfare through competition because productive resources are scarce, pushed by self-interest for material welfare. The effect of both Francis Bacon and Adam Smith is the transformation of the conception of nature from the living and responsive nature to a dead and inert nature, manipulable and exploitable.

Living animate nature died, while dead inanimate money was endowed with life. Increasingly, capital and the market assumed the organic attributes of growth, strength activity, pregnancy weakness, decay and collapse, obscuring and mystifying the new underlying social relations of production and reproduction that made economic growth and progress possible (Merchant, 1992:58).

Thus, the practices that have emerged from Francis Bacon and Adam Smith are responsible for an expedited exploitation of nature because nature has become mechanistic, on the one hand, and the attitudes, thinking, and practice towards nature have become functional for economic and material growth. This is simply a manifestation of an anthropocentrism which has remarkably been incarnated in the discourse of modernity through the frame of rationalism and the practices of dissection and exploitation of nature

## Modernity: The conveyors

The question here is: How does modernity transform people? In a rather short article, Ninkaeng *et al.* (2011:32) argue that modernity is conveyed through the market economy, politics, and advanced society images; these are structures, which in turn, are able to change the daily lives of the people, their minds and mentality, and their socio-economic circumstances.

In general, the main stream of modernity emphasized market economy, politics, and advanced society. A majority of the ... people approved of material wealth that came with modernity. The affluence of the material culture consequently motivated people for change in 3 different ways. First, it created physical change by bringing modernity for use in daily life. Second, by experiencing with modernity, their mind or mentality had already gone ahead of their real lives. Finally, it was social and economic change that had emerged all along.

Furrow (2005) adds two more important structures of education and religion in conveying modernity:

... European-style educational institutions opened and operated alongside of the religious educational system. These systems were mutually exclusive and in competition with one another with the religious schools providing basic education and religious training to the masses and government schools providing European-style education to the elite ... A product of this dual system of education is a cultural rift between those who are more traditionally oriented and those who are more Euro-American oriented ... (Furlow 2005:13)

Structures interact. For example, it is through the education system and religion, which could be called the socialisation structures, that people are socialised with the structures of the market economy, politics, and images of advanced societies. At the same time the latter (market economy, politics, and images of advanced societies) shape the socialisation structures, trying to update them to the desired or aspired standards.

Matanle (2011:103), speaks about institutions and organisations as conveyors of modernity:

Mediating the mental and the material aspects of modernity are the institutions and organisations which individuals and groups construct in order that they might express their consciousness through the process of creative adaptation. In other words, institutions and organisations are the social mechanisms by which people not only create their environment out of the mental images they have developed but also are the method by which people accommodate themselves to the circumstances of their lives. For at the heart of modernity is the individual's moral responsibility to discover his or her authentic inner consciousness and substantiate it in lived experience.

In this debate about the conveyers of modernity, it is important to have a consideration on issues of technology. Rosemann (1999:21-22) paraphrasing Heidegger argues how the latter has been a big critique of science and technology of modernity:

The modern western way of apprehending the world transforms every object - and every subject - that could stand in the way of efficient ordering into a cog on the wheel of a system of productivity, which has become an end in itself. As a result of "enframing", that is to say, the thought-form of modern western technology, a river becomes a reservoir of hydroelectric energy, a forest becomes a store for timber..., in a word, the whole of nature becomes a gigantic gasoline station. Even human beings are no longer seen as people, as subjects, but as potential consumers of fast food or as the material which fills the airplanes. As a consequence, it would be wrong to believe that a man is in charge of technology - technology is in charge of us.

According to Zimmerman (1996:60), Heidegger's thoughts on deep ecology was that humankind's highest possibility and obligation is not to dominate nature through technological means, but rather to let things be in the twofold sense of allowing them to manifest themselves according to their own possibilities and of allowing them to pursue their own destinies with as little interference as possible.

The manoeuvring of natural laws is for the sake of human beings at the expense of the rest of nature. Again, this is an anthropocentric manifestation with respect to science and technology.

The institutions referred to are structures; an important element Matanle adds is the issue of agents: Organisations as agents to convey modernity. More still, Heidegger adds another element of science and technology. These are important observations because, then, it can be argued that agents, structures, science and technology convey modernity.

## Modern environmental ecosophy

In this sub-section, I try to argue that the effectiveness of the discourse of modernity can be seen in the reproduction of an exploitative ethos. Etymologically, the word ecosophy derives from two Greek words, *eco* and *sophia*. “Eco” derives from Greek *oikos*, meaning “house” or “home”. The home is about the organisms and groups of organisms found in nature and their interactions with one another and with their environment (Miller 1982); “it is about biological systems and communities” (Attfield 1998). For Pianca (1983:3) the home is about the biotic and abiotic (non-living environments where life forms, the interactions between and among them, and the totality of their relationships take place. “Sophia”, on the other hand, denotes insight or wisdom. So, ecosophy literally means “wisdom of household” or “household wisdom”. Naess (1989), the originator of the concept of ecosophy, argues that:

an ecosophy becomes a philosophical world-view or system inspired by the conditions of life in the ecosphere. It should then be able to serve as an individual's philosophical grounding for an acceptance of the principles or platform of deep ecology. (Arne 1989:89)

Of course, for Naess, as a deep ecologist, he does not see where humanity should go, other than getting to deep ecology. It is important to note this notion of ecosophy as worldview. According to Kearney (1984:1) a worldview is a “culturally organized macrothought: Those dynamically inter-related basic assumptions (i.e., presuppositions) of a people that determine much of their behavior and decision making, as well as organizing much of their body of symbolic creations... and ethnophilosophy”. A worldview, therefore, provides a foundation for thought, emotion, and behavior; a person is provided with presuppositions about what the world is really like and what constitutes valid and important knowledge about it (Cobern, 1994:5). The worldview lays foundation for what Van Den Born (2007) refers to as visions of nature, which, basically, comprises of three elements of 1) Values of nature: The reasons why nature is perceived to be important; 2) Images of nature: What people consider as nature and what types of nature they distinguish, and; 3) Images of relationship: What people hold as appropriate relation between humans and nature.

In more abstract terms, Drengson and Inoue's (1995:8) make an observation that ecosophy is a philosophy

of ecological harmony or equilibrium. A philosophy as a kind of *sofia* (or) wisdom, is openly normative, it contains both norms, rules, postulates, value priority announcements and hypotheses concerning the state of affairs in our universe. Wisdom is policy wisdom, prescription, not only scientific description and prediction. The details of an ecosophy will show many variations due to significant differences concerning not only the ‘facts’ of pollution, resources, population, etc. but also value priorities (Drengson and Inoue, 1995:8).

The difference between ecology and ecosophy, however, is crucial to be made here. Ecology has to do with the study of organisms in their home or a study of the home of organisms with everything that affects them there. While *logos* has specific scientific pretensions, *sophia* does not have such, but insights directly relevant for action. According to Naess (1989:37), *sophia* intimates acquaintance and understanding, rather than abstract results. In the same vein, Condit (2008:3) sees ecosophy as a personally dutiful, ecologically normative wisdom, which is the practical mode of ecology's philosophical and normative dimensions.

This dimension of practicality that is embedded in the notion of ecosophy calls for a dimension of ethos. In translating the word ethos from its etymological origin in Greek,

there are two meanings. It means “character”, on the one hand, and “habit”, on the other hand. The notion of character has the persuasive power of practice, than the persuasive power of values, which is found in the meaning of ethos as habit. This is the meaning that Aristotle refers to in his *Rhetoric* (Sullivan, 1953:1).

Persuasion is achieved by the speaker’s personal character when the speech is so spoken as to make us think him credible. We believe good men more fully and more readily than others: This is true generally whatever the question is, and absolutely true where exact certainty is impossible and opinions are divided

From this understanding, an ethos is, therefore, the distinguishing character, sentiment, or guiding beliefs of a person, group, or institution that pushes for practice.

With the modern agents, structures, science and technologies an ecosophy with exploitative ecosophy has been created. This ecosophy characteristically manifests two ethos: Egocentrism and nos-centrism. The egocentric ethos is built on individualism whereby society should be organised on the basis of freedom of the individual from the institutional interference in the everyday conduct of one’s professional and private life, on the one hand, and where an individual’s excellence is determined by his/her capacity to compete, on the other hand. Thus, the egocentric ethos underlies impulses for an individual to think of being responsible for his/her own progress through his/her own struggle. For this matter, given the two assumptions of individualism and competition in the egocentric ethos, capitalism becomes a necessary and natural form of economic system: The collective behaviour of human groups or business corporations is not legitimate and the ecological effects are external to human economics and cannot be adjudicated (Merchant 1992:63-70). This is an ethos, therefore, which allows individuals to extract and use natural resources to enhance their own lives.

If the egocentric ethos is based on an individual, the nos-centric ethos is grounded on collectivity. It is for the maximisation of the social good and the minimisation of the social evil, hence, the maximisation of the wanted and the minimisation of the unwanted. This ethos is today founded on utilitarianism. Utility, according to Bentham (1823:2-3), is a property in any object that tends to produce benefit, advantage, good, or happiness, or to prevent the happening of mischief, pain, evil, or unhappiness. The interest of the community is the sum total of the interests of the individuals in that community, and actions are good in as far as they tend to augment the happiness of the community. For Mill (1957:22-23), something good is related to the general interests of society, the interests of the whole and the good of the whole. Therefore, actions are right in proportion to their tendency to promote happiness or goodness in the society, and wrong in proportion to their tendency to produce the reverse of happiness.

Due to utilitarian motivations, this ethos has permitted the undertaking of various projects, both big and small, with the rationale of greater good for a greater number of people. The intrinsic value of the exploited nature becomes subject to the instrumental value. Other values, especially those linked with the ecological system, are undermined. Parsons (1977:178) recalls that “in nature nothing takes place in isolation. Everything affects every other thing and vice versa.” This means that disruption of something in the ecological system means and leads to the disruption of something else in the very system.

## Afterthought

### *My philosophical stance*

I have grown up in a village, which was nearby a small town in the Northwest of Tanzania on the shores of Lake Victoria. Much as I remember to have gone to modern hospitals a number of times, always having a panic and trauma of seeing people in white (doctors and nurses), I remember to have taken so many times traditional herbs; I remember to have gone with my mother to collect them many times; I remember how she would show me a plant and tell me what it does in someone's body; I remember how we would fence with small sticks particular plants in the banana plantation; I still remember the different kinds of plants which we would have nearby the house and others farther from the house. I remember some healing practices which I would take very serious: If I got a hick up, I would take a piece of banana leaf and place it on my forehead; hick-up was supposed to stop. I remember if I knocked of a tip of my toe, I would point the toe in a latrine and the toe would heal.

Much as I remember to see my mother using kerosene to prepare food several times, I still remember that most of the times she used firewood to cook. I remember how I went to fetch firewood, the first day with my father and many days with my friends; I remember having learnt types of trees, some of them good for firewood, others good for construction, others good for medicine, others good for animals, others good for fruits and juices, others good for sticks for beating up people and animals, and others just to be left there in the bush or forest.

Much as my village is on the shores of Lake Victoria, I was never allowed to go swimming. I was told how the lake was dangerous and would swallow me up, apart from having itches on my body. Given the taboo system, I, as a man of the Singo clan, am not supposed to eat fish; women of my clan can. I was also taught that given my clan, I am not supposed eat beef from a cattle with dots running from the nose to the tail; if I ate it, then the whole of my body swell or I could even die; I never saw a cow similar to that (but I am told such cows are there in areas with the Ankole cattle in Uganda and they are a totem to the Singo clan over there).

In those days, around four decades back, this was my everyday encounter with nature with dos and donts. I was in this life and never made any serious thought about whatever I was doing, how I was doing it, and the reasons I would do it. At some point, however, during my postgraduate studies, something popped up in my mind, triggered by a professor's provocation that "man is to woman what human are to nature". The professor was a gender activist. Her basic argument was that the way men relate to women is the same way humans relate to nature; the way men exercise power on women is the same way humans exercise power on other entities of nature. For me, this was a turning point to begin thinking a lot more on issues about the environment and gender, using power as an analytical tool. In fact, my master's thesis, Rumours of Modernity, whispers of Postmodernism, hopes of Post-postmodernism: The search for sustainable environmental rehabilitation, was on environmental philosophy. I have had an opportunity to think more about the environment, or let me say, on nature as a whole, in a course that I teach at the university to postgraduate students: Environment and sustainable development. In this course where I introduce students to the different environmental challenges and to the structures that attempt to address such challenges, I have always remained with a question, which I delightedly share with my students: Why



is that when we try to trace ways to deal with environmental problems we always recycle the same failed ideas? I sometimes got an impression that my question was a wrong one, but I thought more that there was something wrong somewhere in my questioning, to the people I was giving the question, and the context in which I was giving the question.

I have come to grips with my question and re-discovered myself through a certain way of understanding philosophy. For me, philosophy means being able to reflect on one's experience, share it, and build up some wisdom for a good life, not only for oneself but for the entire universe. I think that philosophy has to inquire and theorise on what is taking place on the ground; philosophy has also to deal with the immediate, shaking our minds to make us re-think several times of the issues that we have sometimes, and quite often, taken for granted. It is a kind of human pilgrimage that necessitates a purification of the mind for a true *metanoia*. For any authentic development, particularly now when it is human-centered development, whereas development beyond humans is what is needed, philosophy becomes more important for any critical analysis of the status quo.

The attitude with which reality should be faced is that one of learning from reality and not the other way round. The latter is tantamount to fixing reality to human's own fixed paradigms. Surely, reality will be seen through human's own spectacles, which are our own contextual accidents, but there is need to acknowledge that our own spectacles are simply a medium to watch reality; once, changed, even reality can be seen differently. It is here that philosophy calls for a revolutionary mind; and dealing with something that has to do with power relations, the revolution demands a more decided attitude. This is because one has to betray either his/her power-centre or someone else's power-centre; both positions can carry with them unpleasant implications and consequences. If you belong to the power-centre questioned, then you become a traitor; and if you belong to another power-centre, you become a hopeless intruder. Either way, you are in trouble. Dealing with environmental issues requires one to run certain risks because there are high chances for the betrayal of where one belongs. This is because one of the biggest problems underlying the environmental crisis is the human-centred attitude. When one disqualifies this centredness, he/she is betraying his/her species. When one goes deeper and scratches the layers where "man" is responsible for the destruction of the environment, then this person risks becoming sexist. More problematic is even questioning the discourse in which we are living, the modern development discourse; if you are not branded traditional, then you should be weird in the time you are living because you seem to be biting the fingers that feed you. Who are you to question the modernizing development discourse? And why should you? And hence, an important question for philosophising: Should fear to be branded a traitor interfere with a felt obligation to point out the "ugly faces" of human beings? No, I do not think so!

The uneasiness, however, is part of human growth, especially when we are faced with what challenges our status quo. Maintaining the current state of affairs is comfortable, but growth that demands change is uncomfortable; that is why it is undesirable. However, if humanity has to grow in rendering justice to itself and to by being in and with nature, two revolutions are necessary: The human centredness in the cosmos giving way to poly-centredness, and the "man-archy" in society giving way to "human-archy". This consideration comes from a simple general observation: Human beings have messed up nature, and man has mismanaged society and nature. This shows

how nature has basically suffered a double oppression: A general one from human beings and a specific one from man. But this is a difficult one. Let me express its difficulty using Tolstoy's words, as quoted in Maggiore, (2000):

I know that most men, including those at ease with problems of the greatest complexity, can seldom accept even the simplest and most obvious truth if it would oblige them to admit the falsity of conclusions which they have delighted in explaining to colleagues, proudly taught to others, and which they have woven, thread by thread, into the fabric of their lives".

Sometime back, I saw a cartoon in which a teacher asked a student: "After post-industrialism, post-capitalism, post-structuralism, post-marxism, post-modernism, what next?" The student was smart enough to respond: "Post-early for exams!" I do not think that this should be the attitude with philosophising with regard to environmental challenges, an attitude that is about resting and getting contented with smart answers. Instead, the attitude should be one of seeking not peace in harbour but serenity in the storm.

While working on this study, not only was I caught up in a methodological vacuum on which methodology to use to collect data and analyze it, but also in a theoretical vacuum of implicating modernity as problematic to the innocent traditional ways of dealing with the environment. In dealing with the two vacuums in this study, I realized that philosophizing is a never-ending experience; it is a free inquiry, always new and never completed (and especially very exciting!). Most of the time, I did not know on awakening to what extent I would have to modify this study that day; and once done, that was modification of my world picture before I went to bed that night.

This kind of philosophizing, however, demands that one believes that there could be human limitations, but not limits because we never know whether we reached them; what is beyond, we cannot assimilate, yet its very invitation to us becomes part of our inner perspective. Thus, in this study, I feel that I am looking for ways to get liberated in and with nature. I feel I am like part of the old story where people have their eyes covered and they are being made to touch different parts of the elephant. When the first one touches the leg, he/she thinks it is a tree trunk; the second one touches the side and thinks it is a big leaf; and when the fourth one touches the tail, he/she shouts thinking he/she has touched a snake! This is a paradoxical experience of a philosophizing researcher until when he/she comes to realize that what he/she is experiencing is actually an elephant!

### About this study

The paper does not aim at juxtaposing 'traditional' ecosophical positions and modernity positions, but rather showing that with the getting in of modernity, ecosophical positions have had evolutions leading to some ethos responsible for the current exploitative environmentalism. The study, again, does not aim at condemning any position and blessing another one, but rather pointing out to the fact that given the possibility of evolution in ecosophical positions, humans still have a chance to construct harmonizing ecosophical positions that would lead to sustainable co-existence of different members of the ecological community.

This paper, thus, is critical in its optimism to counteract the pessimism that environmental rehabilitation is almost impossible. It helps to see that there is another possible opportunity through endeavours to differently construct our ecosophical positions. Social constructions can lead to better or worse ecosophical positions. This is

a premise that postulates the possibilities of socially constructing differently towards more harmonizing ecosophical positions that would lead to sustainable co-existence of different members of the ecological community. This is because human beings can put in motion processes to construct new ecosophies. This implies, therefore, putting to task the current dominant exploitative ethos, on the one hand, and disposition to be humble enough to acquire wisdom to change lifestyle, on the other hand.

## References

- ATTFIELD, R. (1998) "Environmental Ethics Overview", in Ruth Chadwick, *Encyclopaedia of Applied Ethics*, New York: Academic Press.
- BAUDRILLARD, J. (1987) *Forget Foucault*, New York: Semiotext.
- BAUMAN, Z. (1995), Searching for a Centre that Holds, in Mike Featherstone, Scott Lash and Roland Robertson (eds.), *Global Modernities*, London: Sage
- BEINHART, W. (2000) "African History and Environmental History", in *African Affairs: The Journal of the Royal African Society*, vol. 99 (395).
- BENTHAM, J. (1823) *An Introduction to the Principles of Morals and Legislation* [1789], London: W. Pickering.
- BEST, S. & KELLNER, D. (1991) *Postmodern Theory: Critical Interrogations*, Hong Kong: Macmillan.
- BOYNE & RATTANSI (1990)
- CARSON, R. (1962) *Silent Spring*, Boston and New York: A Mariner Books and Houghton Mifflin Company.
- COBERN, W.W (1994) "Worldview Theory and Conceptual Change in Science Education", paper presented at the 1994 annual meeting of the National Association for Research in Science Teaching, Anaheim, CA, March 26-29.
- CONDIT, S. (2008) *Ecosophy and the Anarchist character*, Savonlinna, Finland: university of Joensuu.
- DALY, H.E. (1997) *Beyond growth: the economics of sustainable development*, Boston, Massachusetts: Beacon WCED, 1987:43).
- DALY, H. E. (2008) *a steady-state economy*, UK: Sustainable Development Commission
- DRENGSON, A. & INOUE, Y., eds (1995) *The Deep Ecology Movement: An Introductory Anthology*. Berkeley, North Atlantic Publishers.
- EHRlich, P.R and Ehrlich, A.H (2009) "The Population Bomb revised", in *The electronic journal of sustainable development*, vol. 1 (3), pp. 63-71. EHRlich, P. (1968) *The Population Bomb*, New York: Ballantine Books.
- FOUCAULT, M. (1979), "Truth and Power: interview between Michel Foucault and Revoltes Logiques collective", in M. MORRIS & P. PATTON, eds., (1979), *Michel Foucault: Power, Truth, Strategy*, Sydney: Feral Publications, pp. 48-58.
- FURLOW, C. (2005), *Islam, Science, and Modernity: from Northern Virginia to Kuala Lumpur*, PhD Thesis, University of Florida
- GARE, A.E. (1995) *Postmodernism and the Environmental Crisis*, London and New York: Routledge.
- GIDDENS, A. (1990), *The Consequences of Modernity*, Cambridge: Polity Press
- GLANVILLE, J. (1958) *Plus Ultra – 1668*, Gainesville, Fla.: Scholar's Facsimile Reprints.
- GRUEN, L and JAMEISON, D., eds. (1994) *Reflecting on Nature: Readings in Environmental Philosophy* New York and Oxford: Oxford University Press.
- HAJER, M. (1995) *The politics of Environmental Discourse*, Oxford: Clarendon Press.
- HARDIN, G. (1968) "The Tragedy of the Commons," in *Science*, vol. 162 (3859), pp. 1243-8.
- HARDIN, G. (1994) "Living on a Lifeboat," in *Bioscience* , vol. 24 (10), pp. 561-8.
- HEIDEGGER, M. (1966) *Discourse on Thinking*, (trans. Anderson, J.M and Freund, E.H), New York: Harper & Row.
- JHINGAN, M.L. (1975) *Advanced Economic Theory*, New Delhi: Vikas Publishing House PVT Ltd.
- JUNG, H.Y. (1991) "Francis Bacon's Philosophy of Nature: A Postmodern Critique". Paper presented at XII World Conference of World Future Studies Federation, Barcelona: 17<sup>th</sup> to 21<sup>st</sup> September 1991.

- KANT, I. (1971) "An answer to the Question: 'What is Enlightenment?'" in Hans Reiss, ed., *Kant's Political Writings*, Cambridge : Cambridge University Press.
- KEARNEY, M (1984) *Worldview*, Novato, CA: Chandler and Sharp.
- MAGGIORE, C. (2000) *What if Everything You Thought You Knew about AIDS was Wrong?*, Studio City: The American Foundation for AIDS Alternatives.
- MATANLE, P. (2011) Driving the modern dream: Contemporary Japanese modernity in theoretical perspective, *Hōsei Riron: The Journal of Law and Politics*, Faculty of Law, Niigata University, 33 (4): 103-150.
- MEADOWS, D. et al. (1982), *The Limits of Growth*, London: Earth Island Ltd.
- MERCHANT, C. (1992) *Radical Ecology: The Search for a Livable World*, London and New York: Routledge.
- MILL, J.S (1848) "Of the Stationary State," Book IV, Chapter VI in Parker, J.W, *Principles of Political Economy: with some of their applications to social philosophy*, London, England. Accessed from <http://www.econlib.org/library/Mill/mlP61.html#Bk.IV,Ch.VI>, 7<sup>th</sup> July 2012.
- MILL, J.S. (1957) *Utilitarianism* (1861), Indianapolis: Bobbs Merrill.
- MILLER, G.T. (1982) *Living in the Environment*, Belmont, Calif.: Wadsworth.
- MURPHY, J (2009) *Environment and imperialism: why colonialism still matters*, Leeds: SRI.Barbour (1978)
- NÆSS, A., *Ecology, Community and Lifestyle*. Cambridge, university press, 1989.
- NINKAENG, S., HONGSUWAN, P., and PATTARATHANANUN, S. (2011) "Modernity Circumstances Driving the Kui People to Becoming of Beggary", in *European Journal of Social Sciences*, 26 (1), pp. 31-35.
- NISBET, R. (1980) *History of the Idea of Progress*, New York: Basic Books.
- OPIO, P.J. (1993) "In Search of a New Economic Paradigm: An Ethical Contribution", Licentiate Degree, Katholieke Universiteit, Leuven.
- PARSONS, H. ed. (1977), *Marx and Engels on Ecology*, Westport, Ct: Greenwood Press.
- PIANCA, E.R (1983) *Evolutionary Ecology*, New York: Harper and Row.
- RAPHAEL, D. D., & MACFIE, A.L. Eds. (1975) *Introduction. In Adam Smith's The theory of moral sentiments*, Oxford: Clarendon Press.
- RICHARDSON, M (2007) "A review of Sale, K (2006) After Eden: the evolution of human domination", in *Paleo Anthropology*, pp. 60-62
- ROBBINS, L. (1932) *an essay on the Nature and significance of economic science*, London: Macmillan and Co. Ltd
- ROSEMANN, P.W. (1999) "Africa as the "Other" of the West: Problems, Challenges and Chances", Nkozi: Monograph Series of the African Research and Documentation Centre, Uganda Martyrs University.
- SALE, K (2006) *After Eden: The Evolution of Human Domination*, Durham: Duke University Press
- SMITH, A (1975) *The Theory of Moral Sentiments* (1759, 6th revised edition, 1790), Raphael, D.D and Macfie, A.L. eds., Oxford: Clarendon Press, 1975.
- SMITH, A. (1976) *An Inquiry into the Nature and Causes of the Wealth of Nations*, Campbell, R.H, Skinner, A.S., Todd, W.B. eds. (1976), Oxford: Clarendon Press.
- SPEEDING, J., ELLIS, R.L. & HEALTH, D.D., eds. (1870), *Bacon's Works*, London: Longman's Green.
- SULLIVAN, D.L (1993) "The ethos of Epideictic Encounter", in *Philosophy and Rhetoric*, vol. 26 (2), pp. 113-133.
- TAYLOR, C., (1992), "Modernity and the rise of public sphere". The Tanner Lectures on human values delivered at Stanford University, 25<sup>th</sup> February 1992.
- TENNEKES, J. (ny) *Good Governance as a policy Discourse in the Netherlands*, (Work in progress), Enschede: University of Twente, Faculty of Public Administration and Public Policy.
- TURNER, G. (2008), *A comparison of the limits to growth with thirty years of reality*, Canberra: CSIRO. Smith A. () *The Wealth of Nations*

- VAN DEN BORN, R.J.G (2007), *Thinking Nature: Everyday philosophy of nature in the Netherlands, . . . . .*
- World Commission on Environment and Development (WCED), (1987) *Our Common Future*, New York: OUP.
- ZIMMERMAN, M.E (1996) “Martin Heidegger: Antinaturalistic critique of technological modernity”, in Macauley, D., Ed. (1996) *Minding nature: the philosophers of ecology*, New York: The Guilford Press, pp. 51-81.